Continued from page 2.
NOTE. Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)		FOR OFFICIAL USE ONLY	
W	NHD980683544	W	DUP
W/A	1	W/A	2
C		C	DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D005	40,000	P	S01	
2	D001	450	P	S01	
3	F001	1,000	P	S01	
4	D008	20,000	P	S01	
5	D004	14,000	P	S01	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

CONTINUE ON REVERSE

ontinued from the front.

V DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)

	0	H	D	9	8	0	6	8	3	5	4	4	T/M/C	6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground—level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)			LONGITUDE (degrees, minutes, & seconds)		
41	53	31	80	46	29

VIII. FACILITY OWNER

X A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
	G		

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
Richard J. Gerardy	Richard J. Gerardy	Oct 5, 1984

X OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

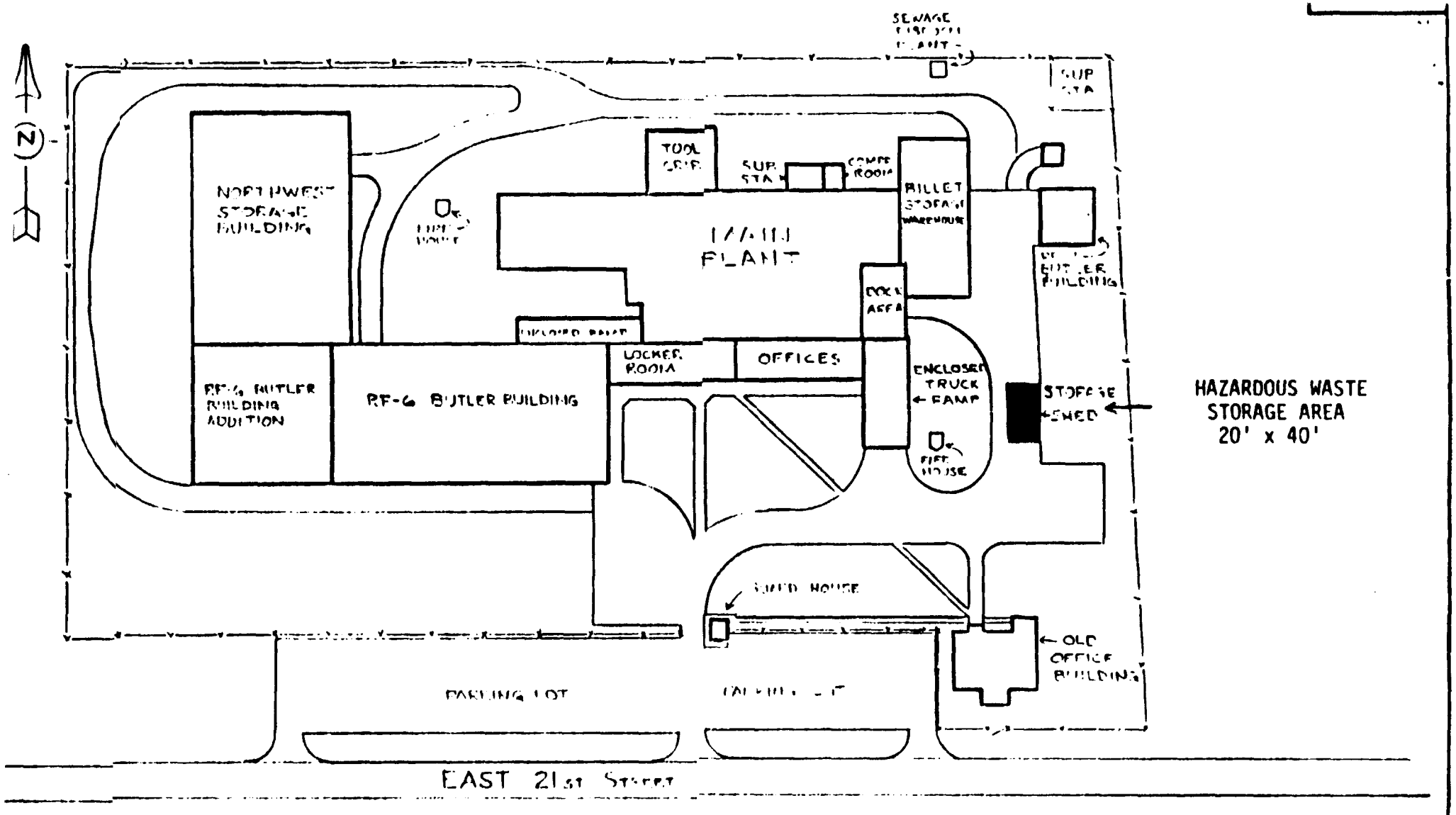
A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
Richard J. Gerardy	Richard J. Gerardy	Oct 5, 1984

CONTINUE ON PAGE

Continued from page 4

Form Approved OMB No. 158-S80004

V. FACILITY DRAWING *(see page 4)*



REVISION

DATE	NO	DESCRIPTION

-DIA'S TO BE CONCENTRIC WITHIN —— T I R
-FACES TO BE SQUARE WITH ℄ WITHIN ——
● STAMP PART & SERIAL NUMBER
-DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED
-TOLERANCES UNLESS OTHERWISE SPECIFIED:
WHOLE NUMBERS & FRACTIONS ± 1/64
TWO PLACE DECIMALS ± .010
THREE PLACE DECIMALS ± .005
ANGLES ± 15 MIN

R M I COMPANY
EXTRUSION PLANT
E. 21st STREET P.O. BOX 579 ASHTABULA, OHIO 44004

MATERIAL	HARDNESS	DATE	SCALE
		7-25-91	1"=1'-0"
DESIGNED TO MATE		DWN	CHK'D
		CHG NO & PROJECT	
TITLE		DWG NO	

PART A PERMIT APPLICATION - AMENDED

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F O H D 9 8 0 6 8 3 5 4 4 D

LABEL ITEMS

- I. EPA I.D. NUMBER
- III. FACILITY NAME
- V. FACILITY MAILING ADDRESS
- VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		
Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
L. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

SKIP: R M I . C O M P A N Y . E X T R U S I O N . P L A N T

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title): S T E U D L E R J A M E S E N V E N G

B. PHONE (area code & no.): 2 1 6 9 9 7 5 1 4 1

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: P O B O X 5 7 9

B. CITY OR TOWN: A S H T A B U L A

C. STATE: O H

D. ZIP CODE: 4 4 0 0 4

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: E A S T 2 1 s t S T R E E T

B. COUNTY NAME: A S H T A B U L A

C. CITY OR TOWN: A S H T A B U L A

D. STATE: O H

E. ZIP CODE: 4 4 0 0 4

F. COUNTY CODE (if known):

EPA Form 3510-1 (6-80)

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
3356 (specify) Extruding Nonferrous Metals	(specify)
C. THIRD	**D. FOURTH**
3351 (specify) Extruding Copper	(specify)

VIII. OPERATOR INFORMATION

A. NAME

RMI COMPANY

B. Is the name listed in Item VIII-A also owner? [X] YES [ ] NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify)

P (specify)

D. PHONE (area code & no.)

A 216 652 9951

E. STREET OR P.O. BOX

1000 WARREN AVENUE

F. CITY OR TOWN

NILES

G. STATE OH

H. ZIP CODE 44446

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
9 N 0H0000442	9 P 02040101 71
B. UIC (Underground Injection of Fluids)	**E. OTHER** (specify)
9 U	9 (specify)
C. RCRA (Hazardous Wastes)	**E. OTHER** (specify)
9 R	9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Extrusion of nonferrous metals.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
R. D. Heiser Plant Manager	for R. D. Heiser	1-3-86

COMMENTS FOR OFFICIAL USE ONLY

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

F 0 H D 9 8 0 6 8 3 5 4 4

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

VR.	MO.	DAY
8 6 2	0 1	1 8

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

VR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR, GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
	S01	6,000	G		7				
2					8				
3					9				
4					10				

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER – Enter the four–digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four–digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY – For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non–listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE – For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non–listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non–listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non–listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)		FOR OFFICIAL USE ONLY	
W		W	DUP
	C: 1	T/A:	C: 2 DUP

DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D005	40,000	P	S01	
2	D001	450	P	S01	
3	F001	1,000	P	S01	
4	D008	34,000	P	S01	
5					
6					
7					
8					
9					
10					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
4					
25					
26					

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)

	O	H	D	9	8	0	6	8	3	5	4	4	G

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground—level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)
41 53 31	80 46 29

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
R. D. Heiser Plant Manager	for R. D. Heiser	1-3-86

X. OPERATOR CERTIFICATION

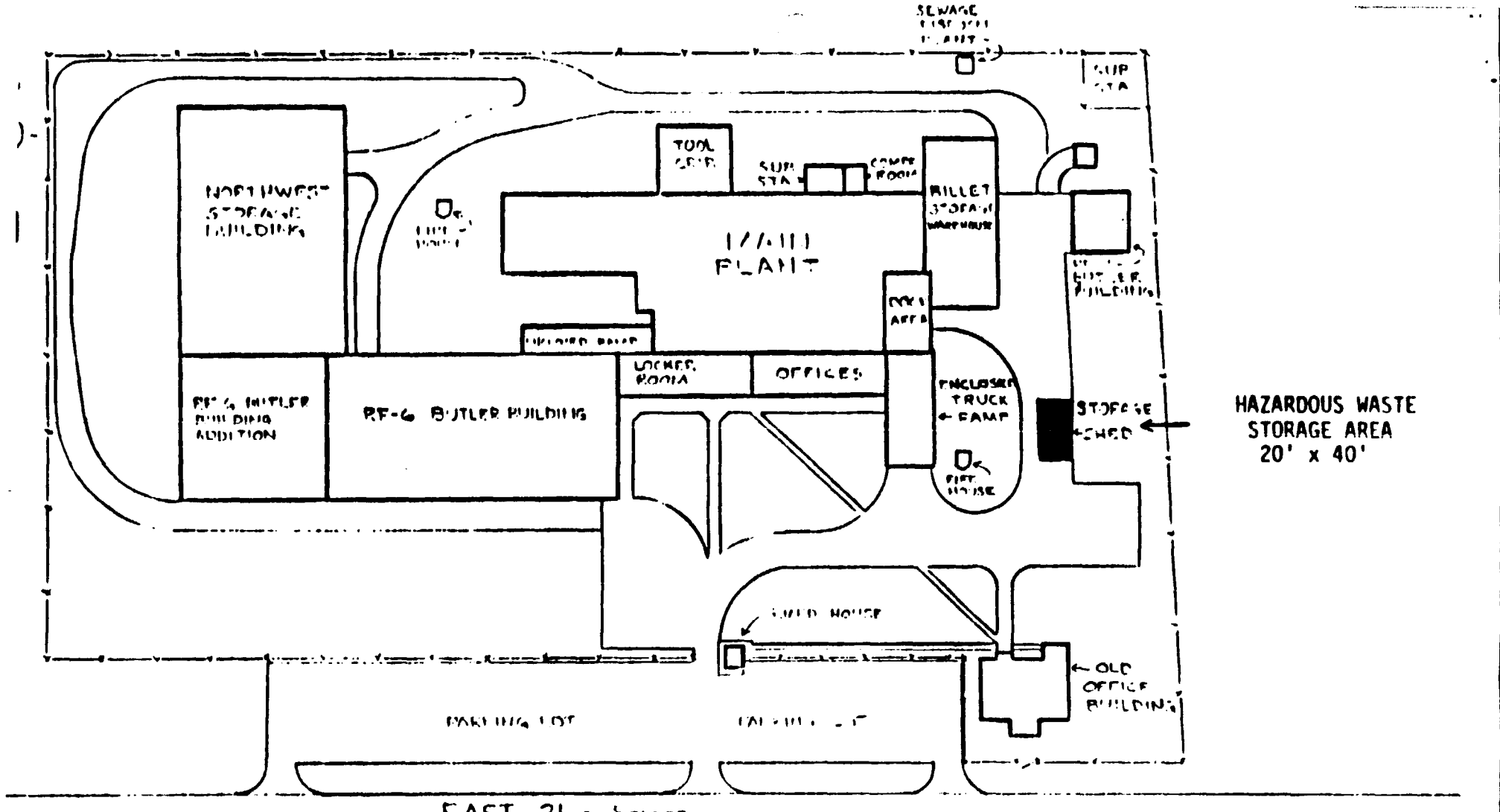
tify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
R. D. Heiser Plant Manager	for R. D. Heiser	1-3-86

Continued from page 4

Form Approved OMB No 158 S80004

V. FACILITY DRAWING (see page 4)



REVISION		
TE	NO	DESCRIPTION

- DIA'S TO BE CONCENTRIC WITHIN —— T I R
- FACES TO BE SQUARE WITH ℄ WITHIN ——
- ● STAMP PART & SERIAL NUMBER
- DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED
- TOLERANCES UNLESS OTHERWISE SPECIFIED:
  WHOLE NUMBERS & FRACTIONS ± 1/64
  TWO PLACE DECIMALS ± .010
  THREE PLACE DECIMALS ± .005
  ANGLES ± 15 MIN

R M I COMPANY
EXTRUSION PLANT
E. 21st STREET P.O. BOX 579 ASHTABULA, OHIO 44004

MATERIAL	HARDNESS	DATE	SCALE
		1-25-94	1"=1'-0"
DESIGNED TO MATE		DRWN JCLES	CHKD
TITLE		CMD NO & PROJECT	
		DRWG NO	

B FACILITY DESCRIPTION

B-1 General Description

RMI Company Extrusion Plant (RMIEP) is located in Ashtabula County, Ohio and owned by RMI Company in Niles, Ohio. Some buildings are owned by the United States Department of Energy (DOE) and some are owned by RMI. Most equipment is owned by DOE. RMIEP occupies 7 acres (3-ha) of a 26 acre (10-ha) site and employs approximately 100 people. The EPA Identification Number is OHD980683544. The Plant's Standard Industrial Classification Numbers are 3356: Extruding Nonferrous Metals, and 3351: Extruding Copper.

RMIEP produces special metal extrusions for government facilities and private industry. Depleted uranium extrusions are produced for DOE's Savannah River Plant and slightly enriched uranium extrusions are produced for the N-reactor at the Hanford Reservation. Copper, copper alloys, super conductors, super alloys, titanium, and zirconium are extruded for commercial facilities. In the extrusion process, metallic billets are heated to forming temperature in molten salt baths or gas fired furnaces and then extruded into tubes in a 3850 ton Loewy Hydropress. A flow diagram of the extrusion process is given in Figure B-1.

The extrusion process at RMIEP generates five types of hazardous wastes. Information on waste type, reason for hazardous classification, generation source, collection area, USEPA waste code number, volume generated and waste form for each waste stream is provided in Table B-1. All wastes are identified, placed in 55-gallon drums, sealed, and dated at the point of waste generation.

RMIEP's hazardous waste storage area is located 50 feet east of the main building (Figure B-2). The Hazardous Waste Storage Building is a 736 square foot steel storage shed with a four to six inch thick concrete base. Drums are stored on pallets in the building until being shipped to the Feed Material Production Center at Fernald, Ohio for final disposition.

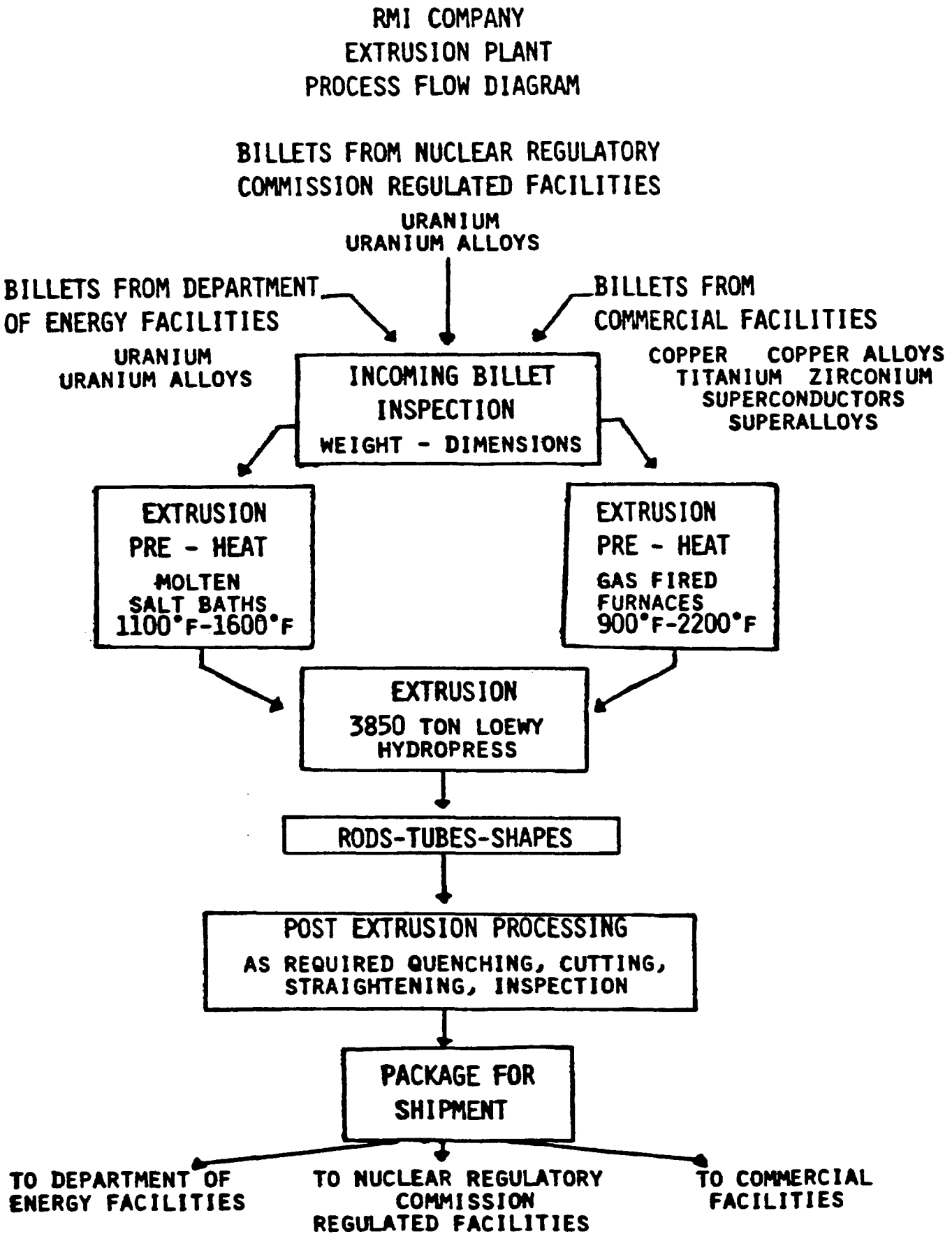


FIGURE B-1. RMI COMPANY EXTRUSION PLANT PROCESS FLOW DIAGRAM

TABLE B-1. Hazardous Wastes Generated at RMI Extrusion Plant(a)

Waste Type	Generation Source	Reason for Hazardous Classification	USEPA Waste Code Number	Volume Generated	Waste Form
Salt Bath Salt	Salt Bath	EP Toxic (Barium Chloride)	D005	40,000 lbs/yr.	Solid
Chlorinated Solvent	Maintenance Area	Spent Halogentated Solvents	F001	1,000 lbs/yr.	Liquid
Stoddard Solvent	Solvent Wash Tank	Ignitable	D001	450 lbs/yr.	Liquid
Pump Station Accumulator Oil	Pump Station Accumulator Tank	EP Toxic (Lead)	D008	20,000 lbs/yr.	Liquid
Lathe Coolant	Lathe Coolant Pans	EP Toxic (Lead)	D008	14,000 lbs/yr.	Liquid

(a) Based on a decision made recently (Summer, 1985) in a meeting of RMI, and the Department of Energy (DOE; Fernald, Ohio) and other personnel, it was agreed that all of the above RCRA hazardous wastes would also be considered to be mixed (that is containing some radioactive material) wastes. As such, their disposition by the RMI Plant will be to ship the wastes in drums to the U.S. Department of Energy Feed Materials Production Center (FMPC) at Fernald, Ohio for subsequent determination of the method for treatment/disposal of the particular wastes. In some instances, this may include recovery of the uranium values prior to treatment/disposal.

B-2 Topographic Map

Several maps and drawings have been provided with this permit application so that all of the requirements of 40 CFR 270.14(b)(19) can be met.

Figure B-2 is a topographic map of the RMIEP property. Scale of the map is 1 inch: 50 feet and the contour interval is two feet. The date of the aerial photography was 11/16/79 and the map was drawn in December, 1979. The nearest surface water body, Fields Brook, lies north of the plant and is shown on this map. A wind rose from Kingsville, Ohio (about 3 1/2 miles northeast of RMI) represents wind directions and intensities for the area and is provided on Figure B-2. The legal boundary of the site, perimeter fence, and gate are also shown. Locations of the RCRA Hazardous Waste Storage Building, loading dock and other plant buildings are provided.

Figure B-3 is a 1977 aerial photograph of the RMI Co. Extrusion Plant and surrounding area. The scale of the photo is 1 inch: 200 feet; it shows at least 1,000 feet beyond the plant property boundary in all directions. The surrounding land uses are shown on this figure.

No water withdrawal or injection wells are located onsite or within a 1,000 foot radius of the Plant. A topographic map of northern Ashtabula County with locations of active and abandoned water supply and injection wells was obtained from the Ohio Department of Natural Resources (ODNR), Division of Water. The map indicates that the nearest well is over 1 mile from RMIEP. Discussions with ODNR personnel have confirmed this conclusion. An Ashtabula Township Map with locations of oil and gas wells (and dry holes) was obtained from the ODNR Division of Geological Survey. The township map indicates that the nearest drilling for this purpose occurred about 3,000 feet from the RMIEP property boundary. Personnel from ODNR verified this information.

A brine injection well is located at an industrial facility northeast of the RMI Extrusion Plant. The property lines of these two facilities are less than 1,000 feet apart, so it is possible that the well is located within a 1,000 foot radius of RMIEP.

Locations of fire extinguishers and other emergency equipment are shown on Figure G-1 in the Contingency Plan Section of this Application.

A general sewer, water supply, and utility plan for the plant is provided as Figure B-4. More recent maps of the sewer facilities for individual buildings are available upon request.

The 100-year floodplain boundaries for the City of Ashtabula and Ashtabula Township are shown on Figure B-5. This figure has been reproduced from Federal Emergency Management Agency Flood Insurance Rate Maps for the County and the City. The County Map is panel 125 of 245 (community-panel number 390010-0125-B) and has an effective date of January 2, 1981. The City Map has an effective date of February 1, 1980. The shaded areas of the map are those that are within the 100-year floodplain and Zone B areas are between the limits of the 100-year flood and 500-year flood. Zone C areas, including the location of RMIEP, are defined as areas of minimal flooding.

Map orientation arrows, dates, and scales are provided on each of the Figures in this Application.

B-3 Location Information

B-3a Seismic Considerations

RMI Extrusion Plant is an existing plant and is not located within the political jurisdictions designated in Appendix VI, 40 CFR Part 264, and is exempted from seismic considerations.

B-3b Floodplain Standard

Figure B-5 shows that the RMI Extrusion Plant is not located within the 100 year floodplain of Lake Erie and the Ashtabula River. The nearest body of surface water is Fields Brook which is located approximately 750 feet north and at an elevation 20 feet below the storage facility. Fields Brook has an insignificant flow rate and is not shown on the Flood Insurance Rate Map.

B-4 Traffic Patterns

Onsite access roads and the entrance road to RMI Extrusion Plant are shown on Figure B-2. Onsite traffic volume is approximately ten vehicles per day. Traffic enters the plant facility from East 21st Street. Visitors and employees park their vehicles in the main lot (located offsite) between the main plant building and East 21st Street. No vehicles enter the plant grounds without approval by the guard at the security gate. Visitors are required to receive a guard escort. A paved road extends from the security gate and provides access to the Emergency Assembly Area, South Loading Dock, Shipping and Receiving, RF-3 Building, Northeast Billet Storage and the Hazardous Waste Storage Building. This road is composed of four inch thick asphalt on a stone base and is capable of supporting the semi-trucks used to haul hazardous wastes offsite. A gravel roadway which provides access to peripheral building entrances extends from the paved area around the periphery of the plant.

Forklifts are used to transport the 55-gallon drums containing hazardous wastes between the main building and the storage facility. Movement of each waste type from the main building to the storage facility varies, but drum movement averages one per day. The drums are stored in the storage facility until being transported, by forklift, to the loading dock and loaded onto 18-wheel tractor-trailers for transportation to the site of disposition. Hazardous wastes are shipped offsite two to three times per year. All roads used by trucks and forklifts carrying hazardous waste are composed of four inch thick asphalt over a stone base.

B-5 Waste Minimization Program

RMIEP has a program in place to reduce the volume or quantity and toxicity of its mixed hazardous wastes to the degree determined to be economically practicable.

The method of waste management currently employed (shipment to FMPC at Fernald, Ohio for management) is the only method currently available to RMIEP which minimizes the present and future threat to human health and the environment.

C WASTE CHARACTERISTICS

This section describes the chemical and physical nature of the hazardous wastes stored at the RMI Plant and the Waste Analysis Plan for sampling, testing, and evaluating the wastes to assure that sufficient information is available for their safe handling.

C-1 Chemical and Physical Analyses

RMI capabilities include the extruding of a wide variety of ferrous and nonferrous metals or alloys. In addition, RMI is NRC licensed and thoroughly experienced in the handling of depleted uranium and uranium alloys.

There are five RCRA hazardous wastes that are generated in the course of the overall extrusion operations carried out on uranium and other metallic materials. The five hazardous waste types and the processes in which they are generated, along with their USEPA hazardous designation or code number, are shown in Table C-1. More detailed data and information on the generation and the physical and chemical characteristics of each of the five wastes are provided below and, where appropriate, is supplemented by Material Safety Data Sheets (MSDS) and/or other descriptive information.

Spent Molten Saltbath Waste

The spent saltbath salt waste is generated in the preheating of uranium metal ingots or billets prior to extrusion. The fresh salt material charged to the tanks is a proprietary mixture (Houghton Liquid Heat 980) and consists of 55 percent (wt) of barium chloride ($BaCl_2$), 25 percent (wt) potassium chloride (KCl), and 20 percent (wt) sodium chloride (NaCl). The white salt mixture is odorless and consists of solid crystals with an average density of 3.86 g/cc. See Exhibit C-1, which is a Material Safety Data Sheet, for additional data on the chemical, physical, and other properties of the salt mixture.

Table C-1. Hazardous Wastes Generated at RMI Extrusion Plant [a]

Waste Type	Generation Source	Collection Location	Reason for Hazardous Classification	US EPA Waste Designation or Code Number	Waste State
Spent Molten Saltbath Salt	Molten Saltbath for Billet Heating	Molten Saltbath Area	EP Toxic (Barium Chloride)	D005	Solid
Chlorinated Solvent	Cleaning/Degreasing of Electrical Motors and Parts	Maintenance Area	Spent Halogenated Solvents From Degreasing Operations	F001	Liquid
Stoddard Solvent	Cleaning/Degreasing of General Parts	Maintenance/ Fabrication Area	Ignitable	D001	Liquid
Pump Station Oil	Pump Generating Hydraulic Pressure for Extrusion Press	Extrusion Press Area	EP Toxic (Lead)	D008	Liquid
Lathe Oil-Water Coolant	Coolant for Lathe Machining of Metal Billets	Lathe Machining Area	EP Toxic (Lead)	D008	Liquid

(a) Based on an decision made recently (Summer, 1985) in a meeting of RMI, and the Department of Energy (DOE; Fernald, Ohio) and other personnel, it was agreed that all of the above RCRA hazardous wastes would also be considered to be mixed (that is containing some radioactive material) wastes. As such, their disposition by the RMI Plant will be to ship the wastes in drums to the US Department of Energy Feed Materials Production Center (FMPC) at Fernald, Ohio for subsequent determination of the method for treatment/disposal of the particular wastes. In some instances, this may include recovery of the uranium values prior to treatment/disposal.

The molten saltbath tank contents are changed when sludge appears to adhere to the billets (or about every six months) and constitute the spent saltbath salt waste. The spent saltbath, which contains about 10 to 22 percent (wt) uranium oxide, is pumped out into a shallow metal tank and allowed to solidify. The solidified saltbath material is then broken up and the pieces placed in 55-gallon, DOT Specification 17H, steel drums for storage. The spent saltbath salt waste is a mixed hazardous waste (i.e., it contains uranium material), which is not ignitable, corrosive, or reactive. The waste is EP toxic because of its high barium content; this determination is made administratively based upon knowledge of the saltbath salt mixture composition.

Chlorinated Solvent Waste

The chlorinated solvent waste is generated in cleaning/degreasing operations carried out on electrical motors and other parts in the plant. Two different proprietary chlorinated solvent formulations are employed for cleaning/degreasing operations in the plant. The chlorinated solvent waste drum contains variable amounts of each of the two spent solvent formulations. Because of the methylene chloride and tetrachloroethylene (perchloroethylene) contents, this mixed solvent waste has an EPA hazardous waste number of F001 (spent halogenated solvents used in degreasing operations from nonspecific sources).

The chlorinated solvent waste at RMI contains a mixture of two proprietary solvents, i.e., F.O. 128 and F.O. 352 (both marketed by HEXCEL Specialty Chemicals, Lodi, New Jersey). Solvent F.O. 128 is a blend of aliphatic and chlorinated hydrocarbons. The approximate composition is as follows:

Aliphatic Petroleum Hydrocarbons >60-80%
Methylene Chloride <5-15%
Perchloroethylene >10-30%.

F.O. 128 is a water white liquid with a mild petroleum odor, a specific gravity of about 0.98, and a flash point of about 235 F. F.O. 352 is a nonflammable, noncorrosive, fast drying solvent designed to quickly dissolve contaminants in all types of cleaning and degreasing operations. The F.O. 352

solvent contains 45 percent (wt) methylene chloride and 55 percent (wt) perchloroethylene. It is a colorless liquid with a mildly sweet chlorinated hydrocarbon odor and a specific gravity of 1.46. Detailed additional information on the chemical, physical, and other characteristics of F.O. 128 and F.O. 352 is provided in Exhibits C-2a and C-2b, and Exhibits C-2c and C-2d respectively.

Stoddard Solvent Waste

Solvent Stoddard R-66 is a proprietary (Standard Oil Co., Ohio) aliphatic solvent essentially void of aromatics which is used at RMI for the degreasing or cleaning of general parts. Solvent Stoddard R-66 is generally accepted for use especially where air pollution controls limit or prohibit the use of aromatic hydrocarbons.

The Stoddard Solvent waste is hazardous because of its ignitability. Its EPA waste code number is D001. Solvent Stoddard R-66 contains approximately equal amounts of paraffinic and naphthenic hydrocarbons. It contains no olefinic hydrocarbons and less than 2 percent aromatic hydrocarbons (typically 0.3%); also, it contains less than 0.1 percent benzene. Solvent Stoddard R-66 is a clear colorless liquid with a characteristic hydrocarbon odor; its specific gravity at 60 F is 0.77. Its flash point is 105 F. More detailed information on the chemical, physical, and other characteristics of Solvent Stoddard R-66 is provided in Exhibits C-3a (MSD Sheet) and Exhibit C-3b (SOHIO Product Data Sheet).

Pump Station Waste Oil

The pump station waste oil arises from the use of the oil in pumps that generate the hydraulic pressure for the extrusion process. Waste oil is skimmed from the surface of oil in the sump on a weekly basis and placed in a drum for storage. A complete change of oil for the unit is made about once a year. The pump station waste oil is not ignitable, corrosive, or reactive. It is hazardous because of its EP toxicity with regard to lead (D008). See Exhibit C-4a which presents the results of EP Toxicity analyses run on a composite sample of pump station oil waste.

The petroleum antiwear hydraulic and lubricating oil used at RMI is ENERGOL HLP 150 (SOHIO, Cleveland, Ohio). This material is a solvent refined paraffinic base oil blend plus additive package containing zinc aklyl dithiophosphate antiwear and antioxidant, antirust metal deactivator, antifoam and demulsibility agents. The blended oil contains not more than 0.1% zinc and 0.1 percent phosphorus. The oil is a pale yellow-light orange, clear liquid with a specific gravity of about 0.88; the flash point is 380 F or above. Additional detailed information on chemical, physical, and other characteristics of ENERGOL HLP 150 is provided in Exhibit C-4b.

Lathe Oil-Water Waste

The spent lathe oil-water coolant waste arises from the use of an oil-water liquid medium as a coolant in the machining of metal billets. The coolant medium used at RMI consists of a combination of about 5 percent (vol) of Staysol 77 (water miscible metalworking fluid) in 95 percent (vol) water. The lathe coolant is changed about every 3 months. The waste lathe oil-water coolant is not ignitable, corrosive, or reactive; it is hazardous because of its EP toxicity for lead (D008). See Exhibit C-5a, which presents the results of EP toxicity analyses run on a composite sample of lathe oil-water coolant waste.

The Staysol fluids are dark viscous liquids with an oil odor and a specific gravity range of 0.92-0.99 and flash points of about 350 F. Additional data on chemical, physical, and other characteristics of Staysol 77 fluid are provided in the MSDS shown in Exhibit C-5b.

C-2 Waste Analysis Plan

The waste analysis plan describes the methodologies for conducting the analyses or determinations required to properly store hazardous wastes at the RMI Facility.

C-2a Parameters and Rationale

The parameters chosen for analyzing or characterizing the five hazardous wastes streams generated at RMI and the rationale for their selection are shown in Table C-2.

C-2b Test Methods

The test methods that are used to measure the analytical parameters listed in Table C-2 are shown in Table C-3. All test procedures are from "Test Methods For Evaluating Solid Waste -- Physical/Chemical Methods" (US EPA, SW-846, 2nd Edition, July, 1982) or other EPA-approved sources.

C-2c Sampling Methods

All of the hazardous wastes stored at the plant are contained in 55-gallon steel drums. As indicated in Table C-1, four of the five wastes are liquid, while the fifth is a solid material. The sampling methods and procedures employed on the wastes are in accordance with these described in "Test Methods For The Evaluation of Solid Waste - Physical Chemical Methods", US EPA, SW-846, 2nd Edition, July, 1982.

The four drummed liquid wastes, namely:

Chlorinated Solvent,
Stoddard Solvent,
Pump Station Waste Oil, and
Lathe Oil-Water Coolant

are all sampled using a stainless steel Coliwasa. The procedure used is that described in SW-846 and is reproduced below:

Table C-2. Waste Analysis Parameters and the Rationale for Their Selection

Hazardous Waste	Parameter	Rationale
Spent Molten Saltbath Salt	EP toxicity (Barium)	The waste is listed hazardous due to EP toxicity (D005) because of its high barium chloride content in the saltbath salt.
Chlorinated Solvent	Methylene Chloride and Perchloroethylene	This spent solvent mixture is a listed toxic waste (F001). There is no reason to believe this waste will contain any other significant constituents in significant concentrations.
Stoddard Solvent	Flash point	The waste is hazardous because it is ignitable. The proprietary Solvent Stoddard R-66 material has a flash point of 105 F. Knowledge of this value helps to ensure safe handling of this waste.
Pump Station Waste Oil	EP toxicity (Lead)	The waste oil is hazardous because it is EP toxic (D008) due to its lead content.
Lathe Oil-Water Coolant	EP toxicity (Lead)	The lathe-water coolant waste is hazardous because it is EP toxic (D008) due to its lead content.

Table C-3. Parameters and Test Methods

Waste Parameter	Test Method	Reference
Methylene Chloride	Gas Chromatography	U.S. EPA, SW-846[a]; Method 8010 for Halogenated Volatile Organics
Perchloroethylene (tetrachloroethylene)	Gas Chromatography	U.S. EPA, SW-846; Method 8010 for Halogenated Volatile Compounds
Flash Point	Pensky-Martens Closed-Cup Method	U.S. EPA SW-846; Method 1010
EP Toxicity	EP Toxicity Test Procedure	40 CFR 261, Appendix II
EP Toxicity-Barium	Atomic Absorption (AA), Direct Aspiration Method	U.S. EPA, SW-846; Method 7080
EP Toxicity-Lead	AA, Direct Aspiration Method	U.S. EPA, SW-846; Method 7420

(a) "Test Methods for Evaluating Solid Waste -- Physical/Chemical Methods", U.S. EPA, SW-846, 2nd Edition, July, 1982.

1. Clean Coliwasa.
2. Adjust sampler's locking mechanism to ensure that the stopper provides a tight closure. Open sampler by placing stopper rod handle in the T-position and pushing the rod down until the handle sits against the sampler's locking block.
3. Slowly lower the sampler into the waste at a rate that permits the level of liquid inside and outside the sampler to remain the same. If the level of waste in the sampler tube is lower inside than outside, the sampling rate is too fast and will produce a nonrepresentative sample.
4. When the sampler hits the bottom of the waste container, push sampler tube down to close and lock the stopper by turning the T-handle until it is upright and one end rests on the locking block.
5. Withdraw Coliwasa from waste and wipe the outside with a disposable cloth or rag.

In some instances, the Coliwasa is employed to sample the contents of two or more drums of the same waste to obtain a composite sample for analysis.

The spent saltbath salt waste is sampled with a plastic scoop to obtain pieces of the solidified salt from various locations in one or more drums. This waste is also analyzed for its uranium content to determine the ultimate treatment/disposition that is to be given this waste by the DOE's Feed Materials Production Center at Fernald, Ohio.

C-2d Frequency of Analysis

The frequency of carrying out analyses on each of the wastes, as shown in Table C-4, is once a year to verify the consistency of the waste stream. Because wastes generated at this facility do not change significantly or often, this minimum frequency will be continued so long as no significant change in results is obtained for the various analytical determinations on each waste stream. Additional analyses will be performed when material changes or process changes can affect the hazardous characteristics of a waste stream. These analyses will be conducted at the discretion of the Plant Manager or the regulatory agency.

Table C-4. Frequency of Analysis

Hazardous Waste	Analysis	Frequency
Spent Molten Saltbath Salt	EP Toxicity (Barium)	Annually
Chlorinated Solvent	Methylene Chloride	Annually
	Perchloroethylene	Annually
Stoddard Solvent	Flash Point	Annually
Pump Station Waste Oil	EP Toxicity (Lead)	Annually
Lathe Oil-Waste Coolant	EP Toxicity (Lead)	Annually

C-2e Additional Requirements for Waste Generated Offsite

This facility only handles onsite generated wastes; therefore, requirements for wastes received from offsite generators do not apply.

C-2f Additional Requirements for Facilities Handling Ignitable, Reactive, or Incompatible Waste

The only ignitable waste stored at the facility is the spent Stoddard solvent. No additional waste analysis beyond the flash point determination is required for this waste. In addition, no reactive or incompatible wastes are stored at the facility, so that no additional waste analyses to cope with such materials are required.

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

RE-ISSUE 5-10-73

SECTION I

MANUFACTURER'S NAME: E. F. HOUGHTON & CO.	EMERGENCY TELEPHONE NO.: 215- 666-4105
ADDRESS (Number, Street, City, State, and ZIP Code): Madison & Van Buren Aves. Valley Forge, PA 19482	
CHEMICAL NAME AND SYNONYMS: N/A	TRADE NAME AND SYNONYMS: LIQUID HEAT 980
CHEMICAL FAMILY: N/A	FORMULA: N/A

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Barium Chloride	45-2	0.5 mg/m3

SECTION III PHYSICAL DATA

BOILING POINT (°F.)		SPECIFIC GRAVITY (H_2O=1)	
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (_____=1)	
SOLUBILITY IN WATER	100%		
APPEARANCE AND ODOR	White salt mixture. No odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	N/A	FLAMMABLE LIMITS	LEL / UEL
EXTINGUISHING MEDIA	N/A		
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS	Avoid water contact with the molten material.		

Exhibit C-1. Material Safety Data Sheet for Liquid Heat 980

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: Unknown for product (See Section II)

EFFECTS OF OVEREXPOSURE: Inhalation - Bitter, salty taste.

EMERGENCY AND FIRST AID PROCEDURES: Inhalation - N/A Eye contact - Wash with water for 15 minutes. Skin contact - Wash with water. Molten material - Treat as burn. Ingestion - Induce vomiting. Consult physician.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	Dampness

INCOMPATABILITY (Materials to avoid): Molten material - Avoid moisture contact.

HAZARDOUS DECOMPOSITION PRODUCTS:

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Brush up and put in a dry container. This product contains more than 250,000 ppm of Barium. This exceeds the 100 ppm level established by RCRA regulation and classifies this material as a hazardous waste if it is to be discarded.

WASTE DISPOSAL METHOD: Small quantities of contaminated material may be dissolved in a container of water. Add more than an equal weight of sodium sulphate and dissolve. Let stand overnight. Discharge liquid phase and treat sludge as solid waste.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type): Mechanical filter when handling dry powder.

VENTILATION	LOCAL EXHAUST: As for molten salt baths.	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES: Asbestos	EYE PROTECTION: Face Shield

OTHER PROTECTIVE EQUIPMENT:

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in a dry area. Take material from becoming damp. Keep container tightly closed. Melt down slowly. Do not exceed working temperature range. Do not add wet work. Avoid breathing dust.

OTHER PRECAUTIONS:

Exhibit C-1. Continued

HEXCEL

U.S. DEPARTMENT OF LABOR
WORKPLACE STANDARDS ADMINISTRATION
BUREAU OF LABOR STANDARDS

MATERIAL SAFETY DATA SHEET

SECTION I: MATERIAL AND MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
HEXCEL/specialty chemicals	201/472-6800

ADDRESS (NUMBER, STREET, CITY, STATE AND ZIP CODE)
205 Main Street, Lodi, New Jersey 07644

CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS
Solvent blend	FO-128
CHEMICAL FAMILY	**FORMULA**
Hydrocarbon	Blend of aliphatic and chlorinated hydrocarbons

SECTION II: HAZARDOUS INGREDIENTS*

PAINTS, PRESERVATIVES/SOLVENTS	%	TLV (UNITS)	ALLOYS AND METALLIC COATINGS	%	TLV (UNITS)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS Aliphatic Petroleum Hydrocarbon	>60-80	200	FILLER METAL PLUS COATING OR CORE FLUX		
Methylene Chloride	<5-15	200	OTHERS		
Perchloroethylene	>10-30	100			

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES*	%	TLV (UNITS)
N/A		

SECTION III: PHYSICAL DATA

BOILING POINT (°F)	106°-360°F.	SPECIFIC GRAVITY (H_2O = 1) @ 25°C.	0.975
VAPOR PRESSURE (mm Hg.)	18	PERCENT VOLATILE BY VOLUME (%)	100%
VAPOR DENSITY (AIR = 1)	5.0	EVAPORATION RATE (CCl_4 = 1)	6½
SOLUBILITY IN WATER	0		

APPEARANCE AND ODOR: Water white - Mild petroleum

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	FLAMMABLE LIMITS	LEL	UEL
No flash to 235°F.-P.M.C.C.		n/a	n/a

EXTINGUISHING MEDIA: CO_2 or suitable dry chemical

SPECIAL FIRE FIGHTING PROCEDURES: Follow procedure for hydrocarbon fire

UNUSUAL FIRE AND EXPLOSION HAZARDS

*PLEASE DO NOT USE GENERALIZATIONS, SUCH AS PETROLEUM HYDROCARBONS, ALCOHOL, KETONES. USE SPECIFIC CHEMICAL NAMES, SUCH AS METHANOL, BENZENE, PERCHLOROETHYLENE

ADAPTED FROM FORM NO. OSHA — 20 (MODIFIED)

Exhibit C-2a. Material Safety Data Sheet for FO-128 Solvent

SECTION V: HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

REFER TO SECTION II

EFFECTS OF OVEREXPOSURE

Inhalation of high vapor concentrations may have results ranging from mild depression to convulsions and loss of consciousness. Will cause skin and eye irritation.

EMERGENCY AND FIRST AID PROCEDURES

If overcome, remove the victim to fresh air. Wash areas of contact with warm water and mild soap. For eyes: flush with water. If swallowed: DO NOT induce vomiting. See a physician as soon as possible after exposure.

SECTION VI: REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	Open sparks and flames

INCOMPATIBILITY (MATERIALS TO AVOID)

Coal tar insulation

HAZARDOUS DECOMPOSITION PRODUCTS

CO_2 CO & $COCl_2$

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII: SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

If outdoors allow to evaporate. Inside spillage - mechanically remove with pump or absorbent material.

WASTE DISPOSAL METHOD

Must be carted away to chemical disposal area.

SECTION VIII: SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE)

Cartridge type for solvents

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (GENERAL) X	OTHER

PROTECTIVE GLOVES: Neoprene	EYE PROTECTION: Standard safety goggles or face shield

OTHER PROTECTIVE EQUIPMENT

SECTION IX: SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Volatile solvent. Keep bung tightly closed. Store in cool location.

OTHER PRECAUTIONS

See Direction Label (attached).

IJG — PREPARED BY

10/79 — DATE

Exhibit C-2a. Continued

HEXCEL chemical products
205 MAIN ST., LODI, N.J. 07644
(201) 472-6800

F.O. 128 SPECIAL-TEE SOLVENT

PURPOSE: F.O. 128 was pioneered by HEXCEL/specialty chemicals as a replacement for highly flammable solvents used in industrial cleaning and degreasing operations. It incorporates the distinct advantages of a high flash point, low residue, rapid dry time and moderate price. F.O. 128 will remove grease and oil films and deposits from metals prior to assembly and painting by balancing adequate solvency drying time and elimination of residue.

GENERAL SPECIFICATIONS:

Flash Point (P.M.C.C.)	235°F.
Specific Gravity @ 25°C.	.976
Appearance	Water White
Odor	Mild Petroleum
Relative Dry Time	Rapid

DIRECTIONS FOR USE:

F.O. 128 may be used in a wipe, dip or spray application. Agitation may be incorporated in dip operation to speed cleaning. Ideal for use as an electric motor cleaner, housings, frames and windings. Air gun drying may be used to speed solvent dry time, if so desired.

HANDLING PRECAUTIONS:

Combustible mixture.
Use in adequately ventilated areas.
Avoid repeated or prolonged contact with skin.
Avoid open sparks or flames.
Keep out of reach of children.

FOR INDUSTRIAL USE ONLY

Note: For more complete information, consult manufacturer's most recent safety data sheets.

4/79

Exhibit C-2b. Product Data Sheet for FO-128 Solvent

HEXCEL

U.S. DEPARTMENT OF LABOR

WORKPLACE STANDARDS ADMINISTRATION
BUREAU OF LABOR STANDARDS

MATERIAL SAFETY DATA SHEET

SECTION I: MATERIAL AND MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
HEXCEL/specialty chemicals	201/472-6800

ADDRESS (NUMBER, STREET, CITY, STATE AND ZIP CODE)
205 Main Street, Lodi, New Jersey 07644

CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS
Blend of halogenated hydrocarbons	F.O. 352 Solvent

CHEMICAL FAMILY	FORMULA
Solvents	

SECTION II: HAZARDOUS INGREDIENTS*

PAINTS, PRESERVATIVES/SOLVENTS	%	TLV (UNITS)	ALLOYS AND METALLIC COATINGS	%	TLV (UNITS)
PIGMENTS	0		BASE METAL	0	
CATALYST	0		ALLOYS	0	
VEHICLE	0		METALLIC COATINGS	0	
SOLVENTS Methylene Choloride Perchloroethylene	45 55	200 100	FILLER METAL PLUS COATING OR CORE FLUX	0	
ADDITIVES			OTHERS	0	
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES*	%	TLV (UNITS)

SECTION III: PHYSICAL DATA

BOILING POINT (°F)	106°	SPECIFIC GRAVITY (H_2O = 1) @25° C.	1.465
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE BY VOLUME (%)	100%
VAPOR DENSITY (AIR = 1)	-	EVAPORATION RATE (CCl4 = 1)	.002%
SOLUBILITY IN WATER	0		

APPEARANCE AND ODOR Water white - sweet

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	FLAMMABLE LIMITS	LEL	UEL
Non-flammable			

EXTINGUISHING MEDIA
N/A

SPECIAL FIRE FIGHTING PROCEDURES
N/A

UNUSUAL FIRE AND EXPLOSION HAZARDS
N/A

*PLEASE DO NOT USE GENERALIZATIONS, SUCH AS PETROLEUM HYDROCARBONS, ALCOHOL, KETONES, OR SPECIFIC CHEMICAL NAMES SUCH AS METHANOL, BENZENE, PERCHLOROETHYLENE

ADAPTED FROM FORM NO. OSHA — 20 (MODIFIED)

Exhibit C-2c. Material Safety Data Sheet for FO-352 Solvent

SECTION V: HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
See Section II

EFFECTS OF OVEREXPOSURE
Inhalation of high vapor concentrations may have results ranging from mild depression to convulsions and loss of consciousness. Will cause skin and eye irritation. If overcome, remove the victim to fresh air.

EMERGENCY AND FIRST AID PROCEDURES
Wash areas of contact with warm water and mild soap. For eyes: flush with water. If swallowed: DO NOT induce vomiting. See a physician as soon as possible after exposure.

SECTION VI: REACTIVITY DATA

STABILITY	**UNSTABLE**		**CONDITIONS TO AVOID**
	STABLE	X	Open flames, electric heaters and arcs, other high energy sources.

INCOMPATIBILITY (MATERIALS TO AVOID)
None

HAZARDOUS DECOMPOSITION PRODUCTS
CO_2 CO & $COCl_2$

HAZARDOUS POLYMERIZATION	**MAY OCCUR**		**CONDITIONS TO AVOID** Strong alkalies and acids, high temperatures.
	WILL NOT OCCUR	X	

SECTION VII: SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
If outdoors, allow to evaporate. Inside spillage, mechanically remove with pump or absorbent material. Ventilate well until all vapor is gone.

WASTE DISPOSAL METHOD
Must be carted away to chemical disposal area or reclaimed for distillation purposes.

SECTION VIII: SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE)
Do not use in confined area.

VENTILATION	**LOCAL EXHAUST** Yes/floor level	**SPECIAL**
	MECHANICAL (GENERAL) Downdraft	**OTHER**

PROTECTIVE GLOVES
Rubber or polyethylene gloves

EYE PROTECTION
Goggles or face shield.

OTHER PROTECTIVE EQUIPMENT

SECTION IX: SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Volatile solvent. Keep bung tightly closed. Store in cool location.

OTHER PRECAUTIONS
Use in well ventilated area.

JH — **PREPARED BY**

12/79 — **DATE**

Exhibit C-2c. Continued

HEXCEL
specialty chemicals

F.O. 352 SPECIAL-TEE SOLVENT SERIES

205 MAIN ST., LODI, N.J. 07644
(201) 472-6800

PURPOSE: These are non-flammable, non-corrosive, fast drying solvents designed to quickly dissolve contaminants in all types of cleaning and degreasing operations. They will effectively remove grease, oil, tar, waxes and other lubricating compounds. F.O.352 Series may also be used in a wipe or spray operation for the cleaning of electrical equipment. F.O.352 Series are non-hydroscopic and remains stable even after continuous heavy usage.

GENERAL SPECIFICATIONS:

	F.O.352	F.O.352-B
Flash Point:	None	None
Fire Point:	None	None
Specific Gravity @ 25°C:	1.465	1.51
Appearance:	Colorless	Colorless
Odor:	Chlorinated Hydrocarbon	
	Mildly sweet	Mildly sweet
Relative Dry Time:	Rapid	Rapid

DIRECTIONS FOR USE:

F.O.352 Series may be used as a wash, spray or dip type solvent. It may be employed as a fast drying metal degreaser, electronic parts cleaner, lubricant cleaner and other prepaint and assembly cleaning operations where a non-flammable solvent is called for.

HANDLING PRECAUTIONS:

CAUTION: Use with adequate ventilation.
Avoid prolonged or repeated breathing of vapors.
Avoid prolonged or repeated contact with skin.
DO NOT TAKE INTERNALLY.
KEEP OUT OF REACH OF CHILDREN.

FOR INDUSTRIAL USE ONLY

Note: For more complete information, consult manufacturer's most recent Safety Data Sheets before use.

9/79

Exhibit C-2d. Product Data Sheet for FO-352 Solvent

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration
Form Approved OMB No. [illegible] R1307

P 9836

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME: Standard Oil Co. (Ohio) & Boron Oil Co.	EMERGENCY TELEPHONE NO.: Within Ohio: 800/362-8059 Outside Ohio: 800/321-8642
ADDRESS (Number, Street, City, State, and ZIP Code): Midland Building, Cleveland, Ohio 44115	
CHEMICAL NAME AND SYNONYMS: Petroleum Distillate	TRADE NAME AND SYNONYMS: SOLVENT STODDARD R-66
CHEMICAL FAMILY: Petroleum Hydrocarbons	FORMULA: Mixture

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Contains approx. equal amounts of paraffinic and naphthenic hydrocarbons.	100	130 ppm
Contains no olefinic hydrocarbons and less than 2% aromatic hydrocarbons		
(typically 0.3%). Contains less than 0.1% benzene.		

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	Initial	315°F	SPECIFIC GRAVITY (H_2O=1) 60°F	0.766
VAPOR PRESSURE (mm Hg.)	68°F	2 mm	PERCENT, VOLATILE BY VOLUME (%) at 400°F	100%
VAPOR DENSITY (AIR=1)		4.9	EVAPORATION RATE (Butyl Acetate =1)	0.1
SOLUBILITY IN WATER		nil.		
APPEARANCE AND ODOR	Clear, colorless liquid with characteristic hydrocarbon odor.			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) TCC 105°F	FLAMMABLE LIMITS	LEL 0.7	UEL 6.0

EXTINGUISHING MEDIA
Foam, carbon dioxide, dry chemical, water spray.

SPECIAL FIRE FIGHTING PROCEDURES
Avoid breathing smoke or fumes from fire. Wear self-contained breathing apparatus if necessary.

UNUSUAL FIRE AND EXPLOSION HAZARDS
A solid stream of water played directly on fire may cause spread. Use solid stream only to protect adjacent storage.

 (Continued on reverse side)

Exhibit C-3a. Material Safety Data Sheet for Solvent Stoddard R-66

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
100 ppm (575 mg./m^3) (ACGIH, 1979) STEL 125 ppm

EFFECTS OF OVEREXPOSURE Eye irritation. Drying of skin. Headache, dizziness, nausea, upper respiratory irritation, anesthesia from excessive inhalation. Ingestion not serious but liquid in lungs can cause critical pneumonitis.

EMERGENCY AND FIRST AID PROCEDURES Eye contact: flush with copious water for 15 min. Skin contact: wash with mild soap and water, use emolient cream. Inhalation: remove to fresh air, apply artificial respiration if needed. Ingestion: do not induce vmoniting. SEEK MEDICAL HELP IF SYMPTOMS PERSIST.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID: Sources of ignition
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)*
Strong oxidizing agents: peroxides, chlorine, oxygen gas under pressure.

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon monoxide from combustion, irritating hydrocarbons from thermal decomposition

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Contain spill. Remove sources of ignition. Collect liquid by mopping, vacuum, or use of solid absorbent. Wear oil impervious boots, gloves, and other protective clothing as needed to minimize contact with liquid. Wear self-contained breathing apparatus if vapors are high.

WASTE DISPOSAL METHOD
Solvent Stoddard R-66 is a hazardous waste under 40 CFR 261.21 (ignitability, EPA D001). Collected liquid can be incinerated. Contaminated absorbent and diking material must be disposed of in compliance with local, state, and federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)* Cartridge respirator or self-contained breathing apparatus depending on vapor level above TLV, in emergencies.

VENTILATION	LOCAL EXHAUST: Sufficient to keep vapor below TLV	SPECIAL: Explosion-proof
	MECHANICAL *(General)*: As needed	OTHER

PROTECTIVE GLOVES: Oil-impervious gloves as needed.	EYE PROTECTION: Goggles where splashing may occur.

OTHER PROTECTIVE EQUIPMENT
Protective skin creams, other oil-impervious clothing as needed.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Store away from sources of ignition. Ground containers during transfer to avoid static electric spark. Use with adequate ventilation. Avoid prolonged or repeated skin contact.

OTHER PRECAUTIONS
Practice good personal hygiene. Do not continue to wear oil-soaked clothing.

Discard oil-soaked shoes or leather articles.

(2) GPO 934-818 120 Form OSHA-20 Rev. May 73

ID 10/80

Exhibit C-3a. Continued

SOHIO

PRODUCT DATA 200-3

DAVID A. BURT
ASHTABULA, OHIO

The Standard Oil Co.
3620 Ann Ave.
Ashtabula, Ohio 44004

SOLVENT STODDARD R-66

Solvent Stoddard R-66 is an aliphatic solvent solvent essentially void of aromatics, conforming to air pollution control laws including Rule 66 and Regulation 3.

FEATURES

Solvent Stoddard R-66 may be used where "Stoddard" or "Mineral Spirits" is suggested. Where air pollution controls limit or prohibit aromatic hydrocarbons, **Solvent Stoddard R-66** is generally accepted.

Rule 66 - **Solvent Stoddard R-66** is non-photochemically reactive as defined by the Los Angeles Air Pollution Control District - Rule 66. It can therefore be used without limitations, in coating products manufactured or sold for use in Los Angeles County.

Regulation 3 - **Solvent Stoddard R-66** is a "complying solvent" as set forth by the San Francisco Bay Area - Regulation 3. Sale or use of quart or larger containers of coatings not containing "complying solvents" is prohibited in the Bay Area.

APPLICATIONS

Solvent Stoddard R-66 is a very versatile aliphatic solvent used in a wide variety of paints, dyes, polishes and similar formulations. It also finds use in degreasing and other industrial cleaning applications.

Solvent Stoddard R-66 may be used as a replacement for Solvent Stoddard 3039 with little or no adjustment in formulations.

TYPICAL INSPECTIONS

Solvent Stoddard R-66

	ASTM METHOD	
Gravity, °API	D-287	51.7
Specific Gravity @ 60°/60°F	0.7724	
Distallation, °F	D-86	
IBP		322
10%		330
50%		340
90%		362
95%		371
DP		386
Flash, °F.	D-56	108
Kauri-Butanol Value	D-1133	33.0
Aniline Point, °F.	D-1012	155
Color, Saybolt Min.	D-156	+30
Doctor Test		Negative
Composition, Volume %		
Parafins		47.0
Olefins	0.0	
Naphthenes		53.0
Aromatics		Less than 0.1%
Complies with rule 66/3		

Bulk shipments from terminals may vary slightly from typicals listed.

Issued: June, 1978
Replaces July 1971

Exhibit C-3b. Product Data Sheet for Solvent Stoddard R-66

TRI-STATE LABORATORIES, INC.

45 N. CANFIELD – NILES RD.
AUSTINTOWN, OHIO 44515
(216) 793-8800

July 11, 1985

RMI Company
PO Box 579
Ashtabula, OH 44004
Att: J.M. Steudler

Dear Mr. Steudler:

EP Toxicity Extraction per the Federal Register, Vol. 45-No. 98, Monday, May 19, 1980, Book 2.

Lab I.D.:	8561018
Sample I.D.:	Pump station accumulator oil composite
Received:	6/10/85
Sample Description:	Sample #1 Composite (DR85-152, 153, 154)

	Final Concentration	Analytical Method*
Arsenic, mg/L as As	0.0098	7060
Barium, mg/L as Ba	1.87	7080
Cadmium, mg/L as Cd	ND(<0.025)	7130
Chromium, mg/L as Cr	ND(<0.5)	7190
Lead, mg/L as Pb	11.1	7420
Mercury, mg/L as Hg	*	7470
Selenium, mg/L as Se	0.0020	7740
Silver, mg/L as Ag	*	7760

*Analysis halted per J.M. Steudler (7/11/85)

Sincerely,

Edward F. Conlin, Manager
Water Ecology Division

EFC/bh

*From EPA SW-846 "Test Methods for Evaluating Solid Waste"

Exhibit C-4a. Results of EP Toxicity Analyses on a Composite Sample of Pump Station Waste Oil

MATERIAL SAFETY DATA SHEET

ENERGOL HLP 22, 32, 46, 68, 100, 150

MARKETED BY:
THE STANDARD OIL COMPANY (OHIO)
BORON OIL COMPANY
BP OIL INC.
Midland Building
Cleveland, Ohio 44115

CORPORATE EMERGENCY TELEPHONE (Toll-Free)
FROM WITHIN OHIO: 800-362-8059
FROM OUTSIDE OHIO: 800-321-8642
CHEMTREC (CMA): 800-424-9300

DESCRIPTION

CHEMICAL NAME: Petroleum oil plus additives CAS REGISTRY NO.: Mixture
SYNONYMS: Petroleum anti-wear hydraulic and lubricating oil
CHEMICAL FAMILY: Petroleum product FORMULA: Mixture MOL. WT.: N.A.
COMPOSITION: Solvent refined paraffinic base oil blend plus additive package containing zinc alkyl dithiophosphate antiwear agent and antioxidant, antirust metal deactivator, antifoam, and demulsibility agents. The blended oils contain not more than 0.1% zinc and 0.1% phosphorus.

STATEMENT OF HEALTH HAZARD

HAZARD DESCRIPTION: There are no acute effects from minimal casual contact. May induce allergic reaction, sensitization in some individuals. Unnecessary exposure to liquid, mist, or vapors should be avoided.
EXPOSURE LIMITS: 5 mg/M^3 threshold limit value (TLV) for oil mist in air (8-hour time-weighted average exposure, OSHA 29 CFR 1910.1000, Table Z-1).

EMERGENCY TREATMENT

EFFECTS OF OVEREXPOSURE: Excessive prolonged or repeated skin contact may cause drying, dermatitis due to defatting action common to all oils. Swallowing may cause discomfort, but without lasting effects. Aspiration of liquid oil into lungs can cause dangerous pneumonitis. Inhalation of mist is not known to have adverse effects, but should be avoided.
EMERGENCY AID: If eyes are involved, flush 15 minutes with copious water. Remove contaminated clothing and wash contacted areas with mild soap and water. If skin exposure was directly from high pressure jet get immediate medical attention as oil may be driven through skin. Otherwise use emollient cream if needed. If swallowed do not induce vomiting because of risk of aspiration into lungs. If breathing difficulty occurs after spontaneous vomiting see physician immediately. Discard oil soaked leather goods. IF SYMPTOMS PERSIST OR EXPOSURE IS SEVERE SEEK PROMPT MEDICAL HELP.
NOTE TO PHYSICIAN: Petroleum aspirtion may cause severe pneumonitis ('oil pneumonia'). Vomiting should not be induced, and gastric lavage should be undertaken with consideration of endotracheal intubation, especially in an unconscious patient.

PHYSICAL DATA

BOILING PT.: (Initial) 650°F or above POUR PT.: Range -30°F to 0°F
VAPOR PRESSURE: at 100°F: negligible VAPOR DENSITY (Air=1): Heavier than air
SPECIFIC GRAVITY: at 60°F: 0.868 to 0.887 SOLUBILITY IN WATER: Insoluble
PERCENT VOLATILE: at 100°F: 0% EVAPORATION RATE (Water=1): Negligible
APPEARANCE AND ODOR: Pale yellow to light orange clear liquids with moderate petroleum odor.

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: (ASTM D-92) 380°F or above AUTOIGNITION TEMP.: Not known
FLAMMABLE LIMITS IN AIR: Not known (not volatile)
EXTINGUISHING MEDIA: Foam, carbon dioxide, dry chemicals, water fog, sand or earth.
SPECIAL FIRE-FIGHTING PROCEDURES: Do not direct water directly into fire to avoid foaming and spreading. Use water to cool threatened surroundings. Avoid breathing fumes. Use self-contained air supply if needed.
UNUSUAL FIRE AND EXPLOSION HAZARDS: No explosion hazard. Sulfur and phosphorus in additive may result in formation of traces of acid gases in smoke.

Exhibit C-4b. Material Safety Data Sheet for ENERGOL HLP 150 Oil Product

HLP

MATERIAL SAFETY DATA SHEET - ENERGOL 22, 32, 46, 68, 100, 150
Page Two

CHEMICAL REACTIVITY

STABILITY: Stable to heat. Reactive with chemical oxidizers.
CONDITIONS TO AVOID: Contact with strong oxidizing agents (peroxides, chlorine, oxygen under pressure).
HAZARDOUS DECOMPOSITION PRODUCTS: Volatile cracked hydrocarbons from thermal decomposition. Carbon monoxide from incomplete combustion.

SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN: Remove sources of ignition. Contain spill. Recover liquid by mopping, vacuum, or absorbent. Avoid unnecessary contact with liquid by use of oil-impervious gloves, boots, and other protective clothing as needed.
WASTE DISPOSAL: Deposit recovered liquid in waste oil system, incinerate, or transfer to re-refiner. Deposit of liquid wastes in landfill is strictly regulated (40 CFR 265.314). Contaminated absorbent and diking material may be put in landfill in compliance with federal, state, and local regulations.

SPECIAL PROTECTION AND PROCEDURES

RESPIRATORY PROTECTION: Not needed in normal use. A simple filter mask may be used where misting is a problem.
VENTILATION: Local or mechanical ventilation sufficient to control any mist below TLV level.
PROTECTIVE EQUIPMENT: Not needed in normal use. Barrier creams, oil-impervious gloves and sleeves or other protective gear, including eye shield, may be used to reduce chances of contact.

SPECIAL PRECAUTIONS

HANDLING AND STORING: Avoid extremes of temperature in storage. Store away from sources of ignition. Store drums so that water will not get in. Avoid contamination.
WORKPLACE: Observe TLV limit for oil mist. Practice good housekeeping. Clean up spills. Oily spots can be slippery. Check high pressure hydraulic systems before working on them, to avoid exposure to oil jet under pressure.
DISPOSAL: Deposit in plant waste oil system, incinerate, transfer to re-refiner. New product is not a hazardous waste under RCRA, but changes and contamination during use may cause spent product to be so classified. If in doubt, check characteristics against definitions in 40 CFR Part 260.
PERSONAL: Practice good personal hygiene. Do not continue to wear oil-contaminated clothing or carry oil-soaked rags. Avoid breathing oil mist.

LABELING AND SHIPPING

HAZARD CLASS: None
PROPER SHIPPING NAME: Lubricating Oil (Motor); Petroleum Lubricating Oil (Rail)
PLACARD: None LABEL: None
STCC NO.: 2911415 IDENTIFICATION NO.: None

OTHER REGULATORY REQUIREMENTS

Any environmental release which introduces oil into a navigable waterway must be reported promptly to the National Response Center, U.S. Coast Guard, Washington, D.C. (1-800-424-8802) (FWPCA §311(b)(3)).

REVISION DATE: 11/17/81 REVIEWED BY: PJF/WDH/RCP/RAR/CWS/WJW/SMD
REPLACING DATE OF: 4/27/81 APPROVED:
PRODUCT CODES: P 3421, 3407, 3409, 3399, 3397, 3375, 3411, 3422, 3423 TITLE: Product Safety Coordinator

ALTERNATIVE TO OSHA-20 FORM

Exhibit C-4b. Continued

TRI-STATE LABORATORIES, INC.

45 N. CANFIELD – NILES RD.
AUSTINTOWN, OHIO 44515
(216) 793-8800

RMI
Joseph T. Holman
1000 Warren Ave.
Niles, OH 44446

Dear MR. Holman:

EP Toxicity Extraction per the Federal Register, Vol. 45-NO. 98, Monday, May 19, 1980, Book 2.

Lab. I.D.:	85032712-85032716 Composite
Sample I.D.:	Composite of Lathe Water Samples
Received:	3/27/85
Sample Description:	Composite of samples marked DR-25,DR-48, DR-26 DR-27, and DR 120C. Samples from Astabula Hazardous Waste Bldg. Lathe water sampled by James Steudler (3/25/85).

	Final Concentration	ANALYTICAL METHOD *
Arsenic, mg/L as As	ND(<0.05)	7060
Barium, mg/L as Ba	38.4	7080
Cadmium, mg/L as Cd	ND(<0.08)	7130
Chromium, mg/L as Cr	1.30	7190
Lead, mg/L as Pb	7.74	7420
Mercury, mg/L as Hg	0.058	7470
Selenium, mg/L as Se	ND(<0.004)	7740
Silver, mg/L as Ag	1.36	7760

Edward F. Conlin, Manager
Water Ecology Division

EFC/bh

* From EPA SW-846 "Test Methods for Evaluating Solid Waste"

Exhibit C-5a. Results of EP Toxicity Analyses on Lathe-Oil Water Coolant Sample

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved OMB No. 44R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
Standard Oil Company-Ohio; Boron Oil Company	216-575-4141
ADDRESS (Number, Street, City, State, and ZIP Code): Midland Building, Cleveland, Ohio 44115	
CHEMICAL NAME AND SYNONYMS: Water miscible metalworking fluids	TRADE NAME AND SYNONYMS: Staysol 4X, 77, 743, EPSC
CHEMICAL FAMILY: Hydrocarbon	FORMULA: Petroleum hydrocarbons plus additives.

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS NA			NA		

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
These products are not classified as "Hazardous Material" as defined		
in U.S. Department of Labor Safety and Health Regulations Section 57		
Parts 1501, 1502, and 1503.		

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	550-850	SPECIFIC GRAVITY (H_2O=1)	0.92-0.99
VAPOR PRESSURE (mm Hg.)	Negligible	PERCENT, VOLATILE BY VOLUME (%)	0
VAPOR DENSITY (AIR=1) no appreciable vapor @ 100°F		EVAPORATION RATE (ether = 1) less than	0.1
SOLUBILITY IN WATER emulsifies completely in water			
APPEARANCE AND ODOR: Dark viscous liquids with an oil odor.			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel
D 92 (Foams excessively @ 200°F) 350°F		unknown	

EXTINGUISHING MEDIA: Foam, Carbon dioxide, dry chemicals, water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Do not direct water directly into fire. Avoid breathing fumes. Use water to cool containers which are endangered.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Keep away from open flame.

(Continued on reverse side)

Exhibit C-5b. Material Safety Data Sheet for Staysol 77 Metalworking Fluid

SECTION V · HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
Unknown

EFFECTS OF OVEREXPOSURE
May cause irritation after prolonged and repeated contact with skin.

EMERGENCY AND FIRST AID PROCEDURES
Wash skin thoroughly with soap and water after prolonged and repeated contact.

Wash eyes with water. See physician.

SECTION VI · REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID Strong oxidizing agents. Contact with open
	STABLE	X	flame.

INCOMPATABILITY *(Materials to avoid)*
Bromine, chlorine, chromic acid, fluorine, hydrogen peroxide.

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon dioxide, carbon monoxide.

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII · SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove any sources of ignition. Absorb with dry materials. Scoop up spilled product.

WASTE DISPOSAL METHOD
If unsuitable for use, dispose of at an approved disposal site or burn in accordance with state and local regulations.

SECTION VIII · SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*
None

VENTILATION	LOCAL EXHAUST Satisfactory	SPECIAL
	MECHANICAL *(General)* None	OTHER

PROTECTIVE GLOVES Rubber or plastic gloves resistant to oil	EYE PROTECTION Helpful, not mandatory.

OTHER PROTECTIVE EQUIPMENT

SECTION IX · SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Avoid prolonged storage at elevated temperatures.

Keep away from open flame.

OTHER PRECAUTIONS

Exhibit C-5b. Continued

D PROCESS INFORMATION

The information provided in this section is submitted in accordance with the requirements of 40 CFR Part 270.14(b). Other regulations addressed in this section include 40 CFR 264.171 through 264.175.

This section discusses the specific process information for drum storage of RCRA hazardous waste in the Hazardous Waste Storage Building. This building houses containers with solid and liquid wastes in a 736 square foot container storage building with a usable storage area of 623 square feet.

D-1 Containers

D-1a Containers with Free Liquids

Since most of the containers in the Hazardous Waste Storage Facility are used for storing liquid wastes, the more stringent requirements for containers with free liquids will be addressed for all of the containers in the facility.

D-1a(1) Description of Containers

The storage building's primary containment devices are 55-gallon, removable-head, single-trip steel containers (DOT-17H). The exterior of each is painted black to prevent rusting. Because of the non-acidic and non-alkaline nature of the wastes there is no danger of corrosion of the steel from within the container.

All containers that are stored at the building are new; they are not reused at RMIEP. All containers are inspected for corrosion and other defects at the time they are first used and on a weekly basis after they are filled and placed in the storage building.

D-1a(2) Container Management Practices

All hazardous wastes are collected at the point they are generated in preidentified 55-gallon drums; the empty drums are stored outside, along the perimeter fence between the substation and the wastewater treatment plant, at the northern property boundary. When a drum is full it is closed and sealed immediately. The drum is then logged in the Hazardous Waste Log which is maintained in the foremen's office. The log requires a drum number, drum content, and the date that the drum goes into storage. This same information is applied to the drum by completing an appropriate hazardous waste label to use for each hazardous waste. The drum is then weighed and transported to the Hazardous Waste Storage Building within 72 hours. Waste types are grouped together, i.e., salt wastes are grouped in one area and waste oil in another area, etc. Even though these wastes are compatible, this arrangement provides for waste segregation and ease of identification of spilled materials. When shipped out of the waste storage facility the individual drums are logged out of the Hazardous Waste Log. Because all containers are sealed prior to storage at the building accidental mixing of the wastes is prevented.

All drums housed in the storage building are stored on pallets. A center aisle (providing access to all pallets) of at least seven feet is maintained. A 30-inch wide aisle is maintained around the perimeter between the pallets and the building wall.

All containers that are stored in the building are new and are shipped to the disposal location with the wastes. They are not reused at RMIEP.

D-1a(3) Secondary Containment System Design and Operation

A plan view of the container storage area is provided in Figure D-1. The container storage area is located indoors in a prefab warehouse building.

D-1a(3)(a) Requirement for the Base to Contain Liquids

There are 623 square feet (curb to curb, minus ramps) of total container storage area with adequate ramps and aisle space for loading, unloading, inspection and spill control operations. The base of the storage building is a 4" to 6" concrete slab with a load capacity of 3,000 psi. It is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the material is detected and removed. Presently the base is free from cracks and gaps except for minor surface cracks. A concrete curb 3 inches high and 6 inches wide surrounds the periphery of the base.

D-1a(3)(b) Containment System Drainage

The drums are stored on pallets to elevate them from contact with standing liquids, and if necessary, the drums are stacked as high as 8 feet (2 drums) for liquids, and 12 feet (3 drums) for solids. The base of the storage building is not sloped.

D-1a(3)(c) Containment System Capacity

The maximum number of drums which can be stored in the building is 200 drums if the aisle spaces are packed with drums stacked 2 high. The secondary containment system is designed so that a 3-inch-high, 6-inch-wide curb surrounds the periphery of the concrete base. The containment system has the capacity to contain a volume of 156 cubic feet (1,164 gallons). This is more than 10% of the total volume of the 200 containers (11,000 gallons).

D-1a(3)(d) Control of Run-on

Since the storage area is totally under roof and completely curbed there will be no run-on. Since no rainfall event will affect this enclosed storage area, storm intensity and frequency are not relevant factors.

D-1a(4) Removal of Liquids from Containment Systems

Removal of liquids from the containment system involves the use of a portable pump or air powered drum vacuum cleaning unit and the application and removal of absorbent material. Sorbents and residual materials will be drummed, labelled, and disposed of as hazardous wastes.

D-1b Containers Without Free Liquids

Even though some wastes stored in containers do not contain free liquids, RMI has chosen to address the more stringent requirements for containers with free liquids for the entire facility.

D-2 Tanks

No tanks are used at the RMI Extrusion Plant for storage or treatment of hazardous wastes.

D-3 Waste Piles

There are no hazardous waste piles at the RMI Extrusion Plant.

D-4 Surface Impoundments

No surface impoundments are used at the RMI Extrusion Plant for hazardous waste treatment or storage.

D-5 Incinerators

The RMI Extrusion Plant does not have an incinerator for destruction of hazardous wastes.

E GROUND WATER MONITORING SYSTEMS

Ground water monitoring is not required at the RMI Company Extrusion Plant because land disposal of hazardous wastes is not practiced at the facility.

66

. D. Peraldy, Vice President
[illegible] Company
P. O. Box [illegible]
[illegible] Avenue
Niles, Ohio 44446

RE: Withdrawal of Part A--
Small Quantity Generator.
RMI Company Metal Reduction Plant
OHD 000210238

Dear Mr. Peraldy:

This is to acknowledge that the United States Environmental Protection Agency (U.S. EPA) has completed its review of your Part A Hazardous Waste Permit Application and your letter of January 20, 1983, requesting the withdrawal of your permit application. According to the information which you have submitted, your facility qualifies for the small quantity generator exclusion as defined in 40 CFR Part 261.5. It is the opinion of this office, based on the information submitted, that your facility is not required to have a hazardous waste permit under Section 3005 of the Resource Conservation and Recovery Act at this time.

Please be advised that you must ensure that your waste is handled in accordance with 40 CFR Part 261.5(g) (enclosed), and applicable State and local requirements.

You will retain your U.S. EPA identification number; if you wish to have your identification number withdrawn, please notify this Regional Office.

Please feel free to contact the Technical, Permits, and Compliance Section at (312) 353-2197 for assistance, if you have any questions. Please refer to "Withdrawal of Part A--Small Quantity Generator," in all telephone contacts and correspondence on this matter.

Sincerely yours,

Karl J. Klepitsch, Jr., Chief
Waste Management Branch

Enclosure

bcc: Versar
Gloria Small Doran, GPC gpm 3/29/83
Kathy Power, SIU

SMU #1	Initiated 2/8/83	PSU CHIEF	STU #1 CHIEF	MMB CHIEF	AHMD DIRECTOR
INITIALS	A.D.				
DATE	2-8-83	2983	2/9/83	3/30/83	

RMI-Metals Reduction

INTER-OFFICE COMMUNICATION

19-SL 46.0/00473

TO Steve Love, IWM, NEDO DATE March 27, 1984

FROM: Gary Gifford, DHMM, NEDO

SUBJECT: RMI/Detrex

67

On September 30, 1981, at the request of RMI officials, Melinda Becker and I inspected the RMI landfill closure excavation-in-progress at the south edge of RMI's property (immediately north of the railroad spur along the north edge of Detrex's property).

According to RMI officials, while excavating the old railroad ditch line, they had encountered an oily material at depth. The material reportedly seeped upwards out of the ground and collected in low spots; the material was heavier than water.

Our inspection revealed the report to be correct. Walking along the fresh ditch bottom caused the material to "bubble" up into dark reddish-brown pools. The area smelled of "moth balls". See attached map on location of the seepage area.

We collected a sample of the oily material for analysis at ODH. Results are attached. I understand that RMI completed the landfill closure, covering the seepage area. We had no objection at the time to RMI's action.

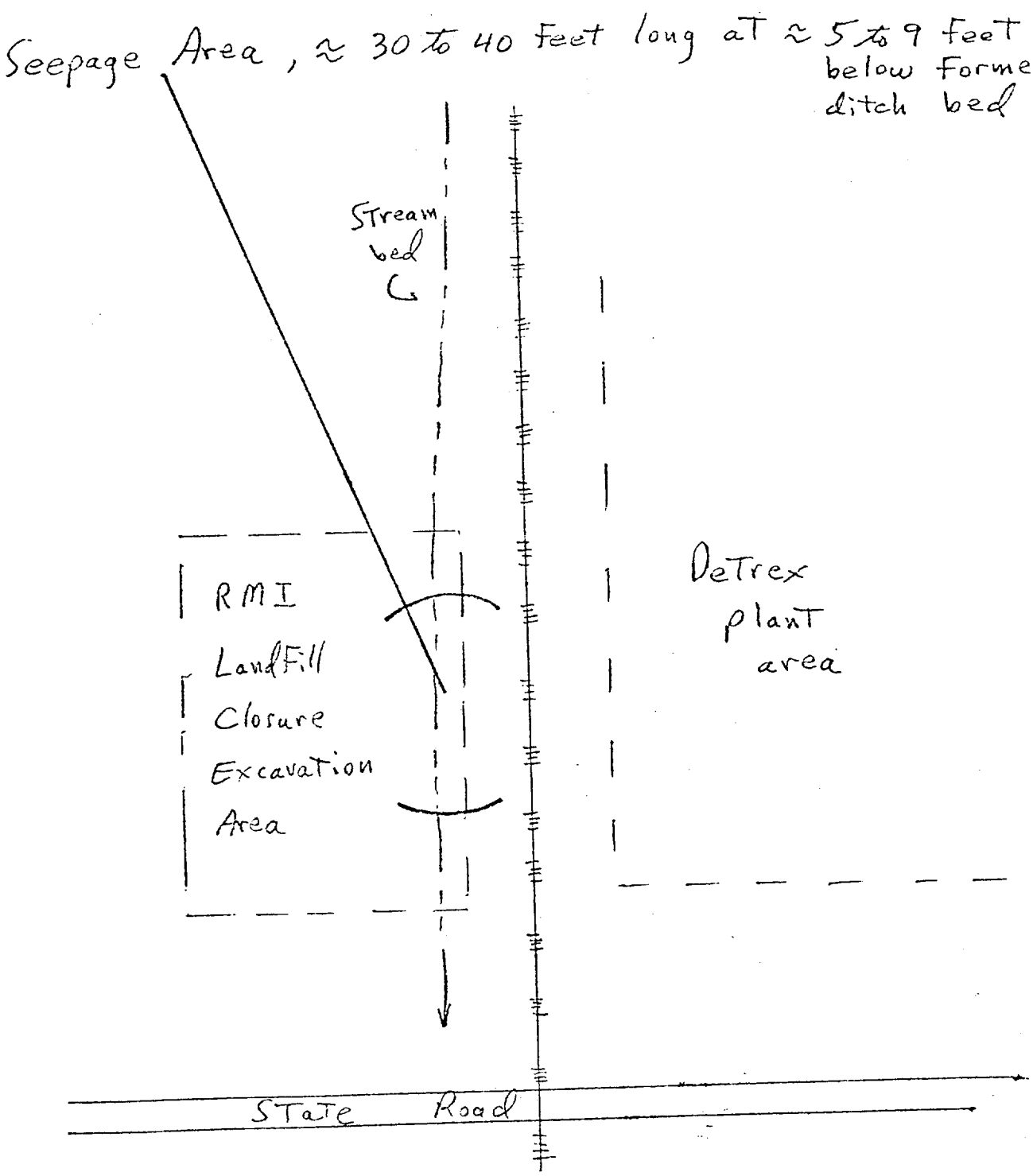
As we were then involved in negotiating a ground water study by Detrex, no further action was attempted in direct regard to the referenced sample.

If you have further questions, please call. Please note this report was constructed from memory of site visit events.

GG:km

Attachment

cc: S. Tuckerman, NEDO


Seepage Area, ≈ 30 to 40 Feet long at ≈ 5 to 9 feet below Former ditch bed
Stream bed
RMI Landfill Closure Excavation Area
DeTrex plant area
State Road

[redacted]epartment of [redacted]ealth
[redacted]hemistry Section

Environmental Sample Submission Report

CEPA

[redacted] Program: HM-50

Results Reported To: ☐ CO ☐ CDO ☐ SE
☒ NE ☐ SW ☐ NW

Laboratory: ☐ Central ☐ SE ☐ NE ☐ SW ☐ NW
Sample Number: HM57
Analyst: E. Stafford Supervisor: J. Green
Date Received: 10/2/81
Date Reported: 10/6/81

Sample Identification

Station: [redacted]
SD Number: SC, [redacted]
Address: [redacted]
City: [redacted] Zip: [redacted]
County: [redacted] Phone: [redacted]
Collected By: Gary G. Ford and [redacted]

Grab Sample Date or Beginning Date of Composite Sample—Use Military Time

Year	Month	Day	Hour	Minute
81	09	30	17	30

Ending Date of Composite Sample—Use Military Time

Year	Month	Day	Hour	Minute	CVT	S/T	TYP

Field Treatment:
☐ Filtered ☐ $CuSO_4$ - H_3PO_4
☐ Iced ☐ H_2SO_4
☐ NaOH ☐ HNO_3
☐ Other (Explain)

Additional Information—Analyst Remarks—Non Routine Analytical Requests

Radioisotopes

☐ Alpha, Total pc/l	P1501.
☐ Alpha, Diss pc/l	P1502.
☐ Alpha, Suspd pc/l	P1503.
☐ Beta, Total pc/l	P3501.
☐ [redacted] Diss pc/l	P3503.
☐ [redacted] Suspd pc/l	P3505.
☐ Barium-140, Total pc/l	P7601.
☐ Cesium-134, Total pc/l	P3541.
☐ Cesium-137, Total pc/l	P3542.
☐ Iodine-131, Total pc/l	P3543.
☐ Potassium-40, Total pc/l	P3539.
☐ Radium-225, Total pc/l	P9501.
☐ Radium-228, Total pc/l	P1502.
☐ Strontium-90, Total pc/l	P1503.
☐ Strontium-89, Total pc/l	P1505.
☐ Tritium pc/l	P7000.

Volatile Organics

☐ Chloroform, Total ug/l	P32106.
☐ Methylene Chloride, Total ug/l	P34423.
☐ Carbon Tetrachloride, Total ug/l	P32102.
☐ Bromoform, Total ug/l	P32104.
☐ Bromodichloromethane, Total ug/l	P32101.
☐ Dibromochloromethane, Total ug/l	P32105.
☐ 1, 2-Dichloroethene, Total ug/l	P32103.
☒ Trichloroethylene	1.4% (w/v)
☒ [redacted]rachloroethylene	1.0% (w/v)
☒ [redacted]rachloroethane	29.3% (w/v) ✓
☐	

Pesticides

☐ Aldrin, Whl Sampl ug/l	P39330.
☐ DDD, Whl Sampl ug/l	P39360.
☐ DDE, Whl Sampl ug/l	P39365.
☐ DDT, Whl Sample ug/l	P39370.
☐ Dieldrin, Whl Sampl ug/l	P39380.
☐ Chlordane, Whl Sampl ug/l	P39350.
☐ Endrin, Whl Sampl ug/l	P39390.
☐ Heptachlor, Whl Sampl ug/l	P39410.
☐ Hepta-Epoxide, Whl Sampl ug/l	P39420.
☐ Lindane, Whl Sampl ug/l	P39782.
☐ Methoxychlor, Whl Sampl ug/l	P39480.
☐ Malathion, Whl Sampl ug/l	P39530.
☐ Parathion, Whl Sampl ug/l	P39540.
☐ Methyl Parathn, Whl Sampl ug/l	P39600.
☐ Toxaphene, Whl Sampl ug/l	P39400.
☐ 2, 4-D, Whl Sampl ug/l	P39730.
☐ Silvex, Whl Sampl ug/l	P39760.
☐ 5HC, Whl Sampl ug/l	P39340.
☐ Mirex, Whl Sampl ug/l	P39755.
☐ Diazinon, Whl Sampl ug/l	P39570.

Special Parameters

☐ PCB, Whl Sampl ug/l	P39516.
☐ Chlorophyll "A" ug/l	P32209.
☐ Phenols ug/l	P32730.
☐ Sample Purpose	P71999.
☐ Sample Code	P115.
☐	
☐	
☐	

Distribution: 1—Data Processing 2—Central Office 3—District Office 4—Owner 5—Laboratory

SCM CHEMICAL/METALLURGICAL
DIVISION OF SCM CORPORATION

GLIDDEN PIGMENTS GROUP
2900 MIDDLE ROAD, P. O. BOX 310, ASHTABULA, OHIO 44004 (216) 998-1825

69

NOVEMBER 16, 1979

MS. DEBORAH J. BERG, R.S.
STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY
NORTHEAST DISTRICT OFFICE
2110 E. AURORA ROAD
TWINSBURG, OHIO 44087

DEAR MS. BERG:

AS REQUESTED IN YOUR NOTICE OF APRIL 16, 1979, UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT OF 1976, AN INVENTORY OF ALL SOLID WASTES CURRENTLY BEING GENERATED AT THE SCM CORPORATION TITANIUM DIOXIDE PLANT LOCATED AT 2900 MIDDLE ROAD, ASHTABULA, OHIO IS ATTACHED. THIS INFORMATION INCLUDES A DESCRIPTION OF THE SOLID WASTES, VOLUME PER MONTH/YEAR, ON-SITE STORAGE FACILITIES AND PRACTICES FOR ULTIMATE DISPOSAL.

A SECOND REQUEST FOR THE SOLID WASTE INVENTORY WAS RECEIVED FROM THE OHIO EPA ON OCTOBER 18, 1979 UNDER THE OHIO ADMINISTRATION CODE WHICH REQUIRES AN OPERATIONAL REPORT WITHIN SIXTY (60) DAYS OF RECEIPT. A COPY OF THE SOLID WASTE INVENTORY IS BEING SENT TO MR. MARK BERGMAN, R.S. TO MEET THIS OBLIGATION.

VERY TRULY YOURS,

SCM CORPORATION
CHEMICAL/METALLURGICAL DIVISION

M. F. WETZEL
SR. DIVISION ENGINEER

MFW/JAG

ATTACH: SOLID WASTE INVENTORY

CC: JOE SPEAKMAN, ASHTABULA COUNTY HEALTH DEPARTMENT
BILL BUSH, INDUSTRIAL WASTE WATER - NEDO
DENNIS BUSH, AIR - NEDO
MARK BERGMAN - NEDO
LYNN CLARK - NEDO
T. C. GILLEN
W. P. HARDEE
J. B. JONES
G. R. WALKER
E. G. ESTABROOK
M. E. CALDWELL
J. R. WIESE
E. M. CONNEEN
S. FRIEDMAN

SOLID WASTE SURVEY FOR OEPA

PLANT: SCM CORPORATION
2900 MIDDLE ROAD
ASHTABULA, OHIO

ITEM #1

WASTE: PROCESS WASTE ACID, AVERAGE 10% HYDROCHLORIC ACID CONCENTRATION

DESCRIPTION: LESS THAN 18% HYDROCHLORIC ACID
INCLUDES ABOUT 15% SOLIDS
TRACES OF DISSOLVED METALS AND SALTS

VOLUME: 5,000,000 GALLONS PER YEAR

ON-SITE STORAGE: ONE 26,000 GALLON RUBBER-LINED METAL TANK
ONE 9,000 GALLON RUBBER-LINED METAL TANK

DISPOSAL: HAULED AND DISPOSAL BY:

RESERVE ENVIRONMENTAL SERVICES, INC.
5841 WOODMAN AVENUE
ASHTABULA, OHIO 44004

ITEM #2

WASTE: SLUDGE FROM PROCESS WASTE WATER SETTLING PONDS

DESCRIPTION: APPROXIMATELY 10% SOLIDS, COKE AND ORE
SOLUBLE AND CRYSTALLINE TiO_2
TRACES OF METAL COMPONENTS

VOLUME: ABOUT 3,500 CUBIC YARDS PER YEAR

ON-SITE STORAGE: NOT APPLICABLE

DISPOSAL: HAULED AND DISPOSAL BY:

RESERVE ENVIRONMENTAL SERVICES, INC.
5841 WOODMAN AVENUE
ASHTABULA, OHIO 44004

ITEM #3

WASTE: SLUDGE FROM POWER HOUSE POND

DESCRIPTION: SUSPENDED SOLIDS FROM CLARIFIER BLOWDOWN DURING WATER TREATMENT OF LAKE ERIE WATER (ASHCO)

VOLUME: ABOUT 1,000 CUBIC YARDS PER YEAR

ON-SITE STORAGE: NOT APPLICABLE

DISPOSAL: HAULED AND DISPOSAL BY:

RESERVE ENVIRONMENTAL SERVICES, INC.
5841 WOODMAN AVENUE
ASHTABULA, OHIO 44004

ITEM #4

WASTE: RUBBISH - BOXES, WOOD, BRICKS, CONCRETE, SWEEPINGS, PRODUCT SPOILS AND MISCELLANEOUS

DESCRIPTION: NOT APPLICABLE

VOLUME: ABOUT 5,000 CUBIC YARDS PER YEAR

ON-SITE STORAGE: SEVERAL 40 CUBIC YARD DUMPSTERS

DISPOSAL: HAULED BY:

NICIU TRUCKING COMPANY
5030 SOUTH RIDGE
ASHTABULA, OHIO 44004

AND DISPOSED OF IN:

DOHERTY LANDFILL
TUTTLE ROAD
GENEVA, OHIO 44041

ITEM #5

WASTE: LABORATORY SPENT SOLVENTS AND PIGMENT DISPERSIONS

DESCRIPTION: SIMILAR TO PAINT

VOLUME: ABOUT 100 GALLONS PER YEAR

ON-SITE STORAGE: 5 GALLON CANS

DISPOSAL: CANS SEALED AND PLACED IN RUBBISH DUMPSTERS

ITEM #6

WASTE: WASTE OIL FROM MAINTENANCE SHOP

DESCRIPTION: SAME AS USED MOTOR OIL

VOLUME: ABOUT 400 GALLONS PER YEAR

ON-SITE STORAGE: 55 GALLON DRUMS

DISPOSAL: VARIOUS ORGANIZATIONS/COMPANIES THAT ARE INTERESTED IN WASTE OIL

ITEM #7

WASTE: SLUDGE FROM SANITARY PLANT

DESCRIPTION: ACCUMULATED SOLIDS FROM THE SANITARY PLANT

VOLUME: ABOUT 1,500 GALLONS PER YEAR

ON-SITE STORAGE: NOT APPLICABLE

DISPOSAL: HAULED BY:

ASHTABULA COUNTY WASTE, INC.
2701 NORTH BEND ROAD
ASHTABULA, OHIO 44004

TO ASHTABULA DISPOSAL PLANT

2

70

INDUSTRIAL COMPLIANCE EVALUATION INSPECTION REPORT

SCM Corporation
Plant #1
2900 Middle Road
Ashtabula, Ohio 44004

Ohio EPA Permit No. 3IE00013*DD
U.S. EPA No. OH0000523

Prepared By

William J. Miller
Environmental Engineer
Division of Water Pollution Control
Industrial Wastewater Group
Northeast District Office
June 10, 1986

Water Division

SUMMARY

On May 7, 1986, the Ohio Environmental Protection Agency conducted a Compliance Evaluation Survey of the SCM Corporation, Plant #1 in Ashtabula Township, Ashtabula, Ohio. The purpose of this survey was to verify the company's compliance with NPDES Permit No. 3IE00013*DD, which became effective in late 1984.

The inspection consisted of a tour of the production facilities, waste treatment system, and laboratory; discussions with company personnel; and review of permittee self-monitoring reports and other documents. An itemized checklist of inspection findings is contained in the attached Form 3560.

The conclusion of the survey was that the company was in compliance with its NPDES permit at the time of inspection, and has in general, maintained an excellent record of compliance since the preceding year's inspection.

Several measures of a preventive maintenance nature are recommended in the "Conclusions and Recommendations" portion of the report. Also, it is recommended that the permit be transferred to the new owner of the plant.

FACT SHEET

Permittee

SCM Corporation
Plant #1
2900 Middle Road
P.O. Box 310
Ashtabula, Ohio 44004

Facility Representative

Jay R. Wiese, Project Engineer

Tel: (216) 988-1825

Responsible Official

F. Tyneski, Plant Manager

Tel: (216) 988-1825

Inspection Data

Type of Inspection:	Industrial Compliance Evaluation
Date of Inspection:	May 7, 1986
Compliance Status:	In Compliance
Date of Previous Compliance Inspection:	March 14, 1985
Previous Compliance Status:	In Compliance

Participants

Ohio EPA: William J. Miller, Environmental Engineer

Permittee: Jay Wiese, Process Engineer
F. Tyneski, Plant Manager
Betty Tarczy, Senior Lab Technician
Gordon Ernst, Instrument Foreman

NPDES Permit Data

Ohio EPA Permit No.:	3IE00013*DD
U.S. EPA No.:	OH0000523
Effective Date:	September 28, 1984
Expiration Date:	September 25, 1989

Outfall Data

Monitoring Station No.:	3IE00013 001
Water Supply:	ASHCO (Lake Erie)
Wastewater Type:	Process
Flow:	1.0 MGD (Avg. flow)
Receiving Waters:	Fields Brook - Ashtabula River - Lake Erie
Parameters Monitored:	Flow, TSS, TDS, Cr(T), Cu(T), Zn(T), Fe(T), Chlorine Residual, pH, Temperature

Monitoring Station No.:	3IE00013 002
Water Supply:	City of Ashtabula, Potable
Wastewater Type:	Sanitary
Receiving Waters:	Fields Brook - Ashtabula River - Lake Erie
Parameters Monitored:	Flow, BOD_5, TSS, Fecal Coliform (summer), pH, Color, Odor, Turbidity

PERMITTEE PROFILE

The SCM Plant #1 is a titanium dioxide refinery. The raw material is rutile, which is 95% tiO_2 and 5% a mixture of many other metal oxides.

The basic production process is conversion of the oxides to chlorides, processing to recover $tiCl_4$, conversion of $TiCl_4$ back to TiO_2, and processing of TiO_2 to impart various desirable properties to it. The TiO_2 is used as a pigment in paints and plastics.

A full report on the wastewater treatment system and the other production processes can be found in previous compliance reports dated October 4, 1979, and April 29, 1980, by Mark Baumgardner.

RESULTS OF SITE VISIT

Company personnel indicated that there had not been any significant changes in production processes since the last inspection. Production is currently at a high level. The treatmert system for process wastewaters has not been changed. One change under consideration is the substitution of hydrochloric acid for sulfuric acid for pH adjustment, though such a change has not yet been made. HCl is a byproduct of the company's operations, whereas it must buy $H_2 SO_4$.

Inspection of the process waste and sanitary waste treatment systems and discussions with company personnel found that the treatment systems were working properly.

The company reports that it is very pleased with the performance of the ultraviolet disinfection system at the sanitary plant, which has been in service for almost one year now. The unit reduces fecal coliform counts to 20-30 per 100 ml as compared to a permit limit of 2000 maximum, 1000 average. The company keeps spare UV lamps on hand.

The company has new sand on hand to replace the old sand in the sanitary plant sand filters. They will put the new sand in place soon.

Inspection of the laboratory and discussions with company personnel found that methods of sample collection, preservation, and analysis are as required by the permit. The company continues to participate in Ohio EPA's quality control program for laboratories. The company sent its analytical results to the Ohio EPA laboratory in April and is awaiting a response.

Discussions with company personnel found that there have been no significant changes in the types or arrangements of instrumentation used to control the waste treatment system. The company checks its pH probes each day the plant is in production and calibrates the flow meter quarterly.

The company reports no significant problems with the instrumentation and controls in the past year. However, in November 1985 there were extremely heavy rains that caused the receiving stream to back up into the company's effluent channel. This threatened to interfere with proper operation of the flow meter.

The following matters were found to need attention:

1) The atomic absorption spectrophotometer used for metals analyses was manufactured in 1976 and has had numerous malfunctions over the last year. The company still has a maintenance contract with the manufacturer, whose representative has come to the site numerous times

over the last year to service the instrument.

However, the instrument is so old that it is becoming difficult to get spare parts for it. So far the company has always been able to have the instrument repaired in time to meet its NPDES analytical and reporting requirements. Also, a new instrument is in the budget and should be in service by late summer. Nevertheless, the possibility exists that the present instrument could fail and could not be restored to service promptly.

2) There was a 1/2" to 3/4" buildup of solids on the floor of the Parshall flume channel and a 1/4" to 1/2" buildup on the sides. This accumulation of solids is causing the float for the flow meter to rise higher than it should, which is causing higher flows to be recorded than is actually the case. In turn the company's computed pollutant loadings are higher than is actually the case.

3) At the sanitary plant, it appears that maintenance personnel often throw sand filter rakings on the ground, rather than disposing of them with other solid trash.

4) There is a heavy buildup of settled sludge in the company's treatment ponds. The company is actively exploring methods of disposing of the sludge and should reach a decision soon.

The company has verbally advised Ohio EPA that it has been purchased by, and is now a subsidiary of, Hansen Industries of England.

REVIEW OF SELF-MONITORING REPORTS & OTHER CORRESPONDENCE

Review of the company's self-monitoring reports for the period of April 1985 - March 1986 (12 months) revealed no reported violations of any daily or monthly pollutant concentration limitations at the process outfall, 001. A few calculations using reported concentrations and reported flows found no loading violations.

As discussed in last year's annual report, it has been discovered that Ohio EPA's computer has not been calculating pollutant loadings, because the company reports flow in cubic meters per day. The computer can only accept flows in GPD or MGD, so the permit is being modified to call for flow in MGD.

The company monitors pH continuously and each month reports the number of excursions and their duration. According to 40 CFR 401.17, a company is deemed in compliance with pH limits if it is in compliance for at least 99% of the month, and if no single excursion exceeds one hour.

In the last 12 months the company has met the 99% standard 12 times. The worst performance was in June 1985, when total compliance time was 99.62%. Compliance time was 100% in July and August 1985. Average compliance time was 99.90% during the period in question, versus 99.81% for the period covered by the last inspection report, and 99.6% for the year before that.

A good share of the noncompliance time may be due to problems with the instruments instead of actual violations.

Only one significant noncompliance event occurred at the process outfall (001) in the past year. On September 8, 1985, a power failure shutdown numerous items of equipment in the plant. When power was restored, operators forgot to restart the agitator that mixes sulfuric acid into the waste stream at "Manhole O," the final pH adjustment point.

Since sulfuric acid is heavier than water, it sank to the bottom of the treatment unit, instead of being mixed. This resulted in a 1 hr., 45 min. pH excursion with effluent pH rising as high as 11.2 S.U.

The company now has checklists of items to be done when restarting the plant after a power failure. As long as the checklist is followed, incidents of the type just discussed should not recur.

At the sanitary outfall (002) there were two insignificant average TSS concentration violations, an insignificant average BOD concentration violation, and a significant average BOD concentration violation during the review period. The new sand being placed in the sand filters may correct this matter.

There were violations of the minimum pH limit in May, June and July 1985. This used to be a fairly common occurrence due to a cross-connection between pipes carrying sanitary and process wastes. A few years ago a barrier was erected to prevent commingling of the two waste streams.

The company's inspections have found the barrier to be intact. In an attempt to locate the cause of the low pH condition, the company in mid-1985 installed a continuous pH meter at the sanitary plant. However, several months' monitoring found no further low pH conditions. Recently the company removed the monitor.

CONCLUSIONS & RECOMMENDATIONS

The company appears to be in compliance with its NPDES permit with the exception of minor excursions at the sanitary plant. It is recommended that the company continue its efforts in pollution control so that its excellent record of compliance can be maintained. It is also recommended that the company do the following in order to remain in compliance:

1) Formally transfer the permit to the new owner, in the manner described in Item 19 on pages 11 and 12 of the permit.

2) Have a commercial laboratory available on a standby basis to conduct metals analyses if the AA spectrophotometer should become unavailable for extended periods of time.

3) Clean solids off the bottom and sides of the Parshall flume channel.

4) Dispose of sand filter rakings with other solid trash. Do not throw rakings on the ground.

5) Continue with plans for sludge removal from the treatment ponds. Keep this office advised of the company's plans.

QUARTERLY INDUSTRIAL COMPLIANCE REPORT

The Ohio EPA has agreed to submit to the U.S. EPA quarterly reports of all instances of noncompliance with NPDES permit conditions that are effective for facilities on the "Major Dischargers" list. The report also lists on-going or proposed enforcement actions along with circumstances behind non-compliance. Thus the "Quarterly Industrial Compliance Report" shows progress toward wastewater pollution control as well as significant deviations from required activities and effluent limitations imposed on major NPDES permit holders.

By submitting the report, the U.S. EPA is assured that we have reviewed the compliance status of all Major Dischargers on a periodic basis. The report is also available to the Congress of the United States and to the public at large. Often, copies are requested by special interest groups, sales representatives and private citizens who desire to learn the status of major facilites in their area.

Quarterly Industrial Compliance Reports for SCM Plant #1 for the period of April 1985 through December 1985 are attached as follows.

71

INDUSTRIAL COMPLIANCE EVALUATION INSPECTION REPORT

SCM Corporation
Plant #1
2900 Middle Road
Ashtabula, Ohio 44004

Ohio EPA Permit No. 3IE00013*DD
U.S. EPA No. OH0000523

Prepared by

William J. Miller
Environmental Engineer
Division of Water Pollution Control
Industrial Wastewater Group
Northeast District Office
June 20, 1985

Water Division

SUMMARY

On March 14, 1985, the Ohio Environmental Protection Agency conducted a Compliance Evaluation Survey of the SCM Corporation, Plant #1 in Ashtabula Township, Ashtabula, Ohio. The purpose of this survey was to verify the company's compliance with NPDES Permit No. 3IE00013*DD, which became effective in late 1984.

The inspection consisted of a tour of the production facilities, waste treatment system, and laboratory; discussions with company personnel; and review of permittee self-monitoring reports and other documents. An itemized checklist of inspection findings is contained in the attached Form 3560.

The conclusion of the survey was that the company is in compliance with its NPDES permit.

FACT SHEET

Permittee

SCM Corporation
Plant #1
2900 Middle Road
P.O. Box 310
Ashtabula, Ohio 44004

Facility Representative

Jay R. Wiese, Project Engineer

Tel: (216) 988-1825.

Responsible Official

F. Tyneski, Plant Manager

Tel: (216) 988-1825

Inspection Data

Type of Inspection: Industrial Compliance Evaluation

Date of Inspection: March 14, 1985

Outfall Data

Monitoring Station No.:	3IE00013 001
Water Supply:	ASHCO (Lake Erie)
Wastewater Type:	Process
Flow:	1.0 MGD (Avg. flow)
Receiving Waters:	Fields Brook - Ashtabula River - Lake Erie
Parameters Monitored:	Flow, TSS, TDS, Cr(T), Cu(T), Zn(T), Fe(T), Chlorine Residual, pH, Temperature

Monitoring Station No.:	3IE00013 002
Water Supply:	City of Ashtabula, Potable
Wastewater Type:	Sanitary
Flow:	4000 GPD
Receiving Waters:	Fields Brook - Ashtabula River - Lake Erie
Parameters Monitored:	Flow, BOD_5, TSS, Chlorine Residual, Fecal Coliform, pH, Color, Odor, Turbidity

PERMITTEE PROFILE

The SCM Plant #1 is a titanium dioxide refinery. The raw material is rutile, which is 95% TiO_2 and 5% a mixture of many other metal oxides.

The basic production process is conversion of the oxides to chlorides, processing to recover $TiCl_4$, conversion of $TiCl_4$ back to TiO_2, and processing of TiO_2 to impart various desirable properties to it. The TiO_2 is used as a pigment in paints and plastics.

A full report on the wastewater treatment system and the other production processes can be found in previous compliance reports dated October 4, 1979, and April 29, 1980, by Mark Baumgardner.

RESULTS OF SITE VISIT

Inspection of the process waste and sanitary waste treatment systems and discussions with company personnel found that the treatment systems were working properly. Inspection of the laboratory and discussions with company personnel found that methods of sample collection, preservation, and analysis are as required by the permit. No apparent problems were noted.

Company personnel indicated that there had not been any significant changes in production processes or production rates since the last inspection. The treatment system for process wastewaters has not been changed. One change under consideration is the substitution of hydrochloric acid for sulfuric acid for pH adjustment, though such a change has not yet been made. HCl is a byproduct of the company's operations, whereas it must buy H_2SO_4.

Discussions with company personnel found that there have been no significant changes in the types or arrangements of instrumentation used to control the waste treatment system. Some old instruments and components have been replaced with new ones; for instance, a new conductivity meter was bought.

One change has been made at the sanitary plant, namely the installation of an ultraviolet disinfection system. Company personnel verbally informed OEPA that this system was placed into operation after the inspection. Installation of a disinfection system was necessary to comply with the NPDES permit.

Discussions with company personnel revealed that several major improvements had been made in the laboratory. A new Fisher oven has been installed for drying TSS and TDS samples. The atomic absorption spectrophotometer used to analyze for metals was completely refurbished by a factory representative in late 1984. He replaced the circuit boards and checked out all other components. A new Mettler single pan balance has been installed for weighing TSS and TDS samples. It is to be serviced yearly by a factory representative.

REVIEW OF SELF-MONITORING REPORTS & OTHER CORRESPONDENCE

Review of the company's self-monitoring reports for the period July 1984 - April 1985 (10 months) revealed no reported violations of any daily or monthly pollutant concentration limitations at the process outfall 001. A few calculations using reported concentrations and reported flows found no loading violations.

It was recently discovered that Ohio EPA's computer has not been calculating pollutant loadings, because the company reports flow in cubic meters per day.

The computer can only accept flows in GPD or MGD, so the permit is being modified to call for flow in MGD.

The company monitors pH continuously and each month reports the number of excursions and their duration. According to 40 CFR 401.17, a company is deemed in compliance with pH limits if it is in compliance for at least 99% of the month, and if no single excursion exceeds one hour.

In the last 10 months the company has met the 99% standard all 10 times. No excursion was longer than one hour. The worst performance was in July 1984, when total compliance time was 99.01%. Compliance time has been as high as 99.98% of the month. Average compliance time was 99.81% during the period in question, versus 99.6% for the period covered by the last inspection report.

A good share of the noncompliance time may be due to problems with the instruments instead of actual violations.

At the sanitary outfall (002) there were two insignificant average TSS concentration violations and an insignificant BOD concentration violation. More surprisingly, in November and December there were violations of the minimum pH limit. This used to be a fairly common occurrence due to a cross-connection between pipes carrying sanitary and process wastes. A few years ago a barrier was erected to prevent commingling of the two waste streams. The company recently inspected this barrier and found it intact. It is suspected that an employee may have poured some acidic material into a sanitary drain. If the problem recurs, it will be promptly investigated.

In the last inspection report it was noted that there were discrepancies between Ohio EPA's and the company's analytical results for TSS and TDS. The company was requested to investigate the cause of the discrepancies.

On October 2, 1984, the company filed a report with Ohio EPA stating that an internal audit of analytical procedures was made. These procedures were found satisfactory in all respects. Also, a test was conducted in which different technicians analyzed the same sample. Their results were comparable.

The company pointed out that the technician who ran SCM's split of the compliance inspection sample is the same one who has run the samples for over three years. It was also pointed out that the company has participated for several years in Ohio EPA's quality assurance programs. Its performance has been well within acceptable limits.

The company's action in this matter is fully satisfactory.

CONCLUSIONS & RECOMMENDATIONS

The company appears to be in compliance with its NPDES permit with the exception of minor excursions at the sanitary plant. If these excursions recur it will be necessary to investigate the causes and take remedial action.

It is recommended that the company continue its efforts in pollution control so that its excellent record of compliance can be maintained.

QUARTERLY INDUSTRIAL COMPLIANCE REPORT

The Ohio EPA has agreed to submit to the U.S. EPA quarterly reports of all instances of noncompliance with NPDES permit conditions that are effective for facilities on the "Major Dischargers" list. The report also lists on-going or proposed enforcement actions along with circumstances behind non-compliance. Thus the "Quarterly Industrial Compliance Report" shows progress toward wastewater pollution control as well as significant deviations from required activities and effluent limitations imposed on major NPDES permit holders.

By submitting the report, the U.S. EPA is assured that we have reviewed the compliance status of all Major Dischargers on a periodic basis. The report is also available to the Congress of the United States and to the public at large. Often, copies are requested by special interest groups, sales representatives and private citizens who desire to learn the status of major facilities in their area.

Quarterly Industrial Compliance Reports for SCM Plant #1 for the period of July 1982 through March 1985 are attached as follows.

TO Robert H. Maynard, Director DATE 10/26/83

FROM: Ken M. Harsh, Assistant Chief, Emergency Response

SUBJECT: Ashtabula River Basin, Fields Brook Subbasin

72

Summary: This memo and Appendices detail most of the reasons this writer believes that G+W's $TiCl_4$ Plant located at State and Middle Roads in Ashtabula, Ohio is the major source of PCBs in Fields Brook and the Ashtabula River Basins. It makes no final conclusions as to other contaminants such as chlorinated benzenes, in either Fields Brook or the Ashtabula River. How would you like me to proceed, should I schedule a meeting with the company?

In 1972, I spent my first week with ODH, the predecessor agency to the Ohio EPA, on a special project to monitor Fields Brook in an intensive wastewater survey. During a hiatus in Dayton from 1972-1979, I was not actively involved with, but did maintain an interest in the area. Since then, I have been to the Ashtabula area on the following dates:

3/19/79
4/25/79
9/13/79
9/26'80
6/02/81
7/06/81
7/24/81
7/28/81
2/24/83
4/20/83
5/11/83
6/28/83 (and several other dates)

START Roll#FBK006

Roll#FBK006

I have followed with interest the continued reports of contamination of the waters and sediment of Fields Brook and the Ashtabula River with PCBs and other halogenated compounds. I have seen the return of fish to the brook, and some relative improvement to waters of the brook. There are some very unusual compounds there which fall under RCRA, CERCLA, CWA, and TSCA. I confined my investigations in 1983 to finding the source(s) of PCB contamination in the sediment of the Ashtabula River.

One obvious source of contamination has been PCBs from Acme Scrap, which has been under investigation for some time. All oils from Acme contained relatively small amounts of PCBs (less than 1000 ppm).

Heretofore, there has been no systematic attempt to locate the source(s) of PCBs in the Ashtabula River. Table IV, Page 15, Appendix A details PCB contamination of the Ashtabula Harbors Area. The most significant contaminants identified are: Dichlorobenzenes, Hexachlorobutadiene, Hexachlorobenzene, Trichlorobenzene, a Phthalate, and Aroclor 1242. The highest levels of contaminants were found in the backwater eddies and near the confluence of Fields Brook with the Ashtabula River.

Appendix 2 is a map of the Fields Brook area showing 1983 sample survey points. As you can see a number of entities have been eliminated from consideration. No PCBs were found in the sediment above G+W which eliminates:

SMC-Glidden Durkee
IMC, now LCP Chemicals
Olin
General Tire
G+W TiO_2 Plant
Detrex Chemical

No PCBs were found below Diamond Shamrock, or RMI.

Two suspect tributaries at West 31st Street and Strong Brook both were PCB free. The lack of contamination in Strong Brook is significant because that eliminates Conrail, Rockwell and other entities on that storm sewer system.

Sample Data Table I.*

Sample #	Location	Date	PPM	Aroclor Type	Type
ER 453	Cook Road Field Brook	2/24/83	<0.25	-	Sediment
ER 454	Upstream Olin Field Brook	2/24/83	<0.25	-	"
ER 521	Downstream Olin Field Brook	5/12/83	<0.25	-	"
ER 457	Old Detrex Dam Swail	2/24/83	<0.25	-	"
ER 522	Below Old Detrex Outfall F.B.	5/12/83	< 0.25	1248	"
ER 523	G+W Current outfall	5/12/83	180	1248	"
ER 524	G+W old outfall overflow	5/12/83	920	1248	"
ER 524	G+W old outfall overflow	5/12/83	15	1260	"
ER 603	G+W old outfall	6/28/83	330	1248	"
ER 601	G+W debris in trench	6/28/83	620	1248	"
ER 605	G+W debris around pumps	6/28/83	1600	1248	"
ER 604	G+W heater loop	6/28/83	69	1232	Oil
ER 600	G+W drip pan	6/28/83	66	1232	Oil
ER 604	G+W thermimol tank	6/28/83	13,000	1248	Oil
ER 456	150 yds. upstream S.R. Field Brook	2/24/83	650	1248	Sediment
ER 455	Acme Scrap outfall, Field Brook	2/24/83	46	1248	"
ER 458	Field Brook 100 yds. downstream State Rd.	2/24/83	<0.25	-	Sediment 6" deep
ER 459	Field Brook 100 yds. downstream State Rd.	2/24/83	< 0.25	-	Sediment top
ER 460	Field Brook Rt. 11 downstream	2/24/83	<0.25	-	Sediment
ER 525	Trib. to Fields Brook @ Middle Rd. - RMI effluent ditch	5/12/83	< 0.25	-	Sediment
ER 462	Unnamed trib. near W. 31st	2/24/83	< 0.25	-	Sediment
ER 461	Strong Brook near Jack's Marina	2/24/83	< 0.25	-	Sediment

*See Appendix C for sample sheets.

PCB were not found upstream in the Ashtabula River either. The sediment from near the Acme Scrap outfall was not nearly as contaminated as I had expected.

While Acme Scrap contributed some of the PCBs in the Ashtabula River, it did not contribute the majority of PCBs to the Ashtabula River sediment.

Officials of G+W $TiCl_4$ Plant stated that the system used to contain pure Aroclor's, but that these were removed by Monsanto around 1971-1972, and replaced by Therminol fluid. G+W officials also stated that the heat exchangers used to leak large volumes of oil from faculty metal gaskets, which were replaced in 1979 with better gaskets which still leak. The recirculating pumps were diked in 1979, before this copious leakage went into a storm sewer. G+W installed better treatment in the late 70's. Overflows, and bypasses, from sample results, used to allow quantities of PCBs to enter Fields Brook.

G+W installed the heat exchanger system approximately 20 years ago, and replaced one PCB fluid with another 10 years ago. Given the current state of the G+W heat loop/exchanger system and the copious quantities that have leaked out, and the sample results, I think that G+W, $TiCl_4$ Plant is the major contributor of PCBs in the Ashtabula River. I will not make any final decision regarding the other contaminants, other than to note both the Old Dam Swail area, and the unnamed tributary on State Road contain significant amounts of perchloroethylene, trichloroethylene, and other materials from Detrex Chemicals. Hopefully results from other surveys can yield definite answers as to sources of specific levels at specific chemicals. I would suggest that G+W $TiCl_4$ or SCM, who is purchasing that G+W Plant be called in for a meeting with DHMM, WW, Surveillance, ER, etc., to try and resolve the PCB situation.

Also leading me to believe that the PCBs in the basin are from G+W is Table 1, Appendix F., G+W PCB Inspection Report performed by Versar, Incorporated. That inspection found that the PCBs in the heater loop and in the Therminol tank were Aroclor 1242. G+W is the PCB source.

KH/gc

cc: Kenneth A. Schultz, ER
John Estenik, WW, Toxics
Cary Martin, S&A
Roger Hannahs, DHMM
Steve Tuckerman, NEDO, DHMM
Bob Wyzenski, NEDO, S&A
Robert Indian, ODH
Shel Simon, U.S. EPA

APPENDICES

A. Sample Results - Ashtabula River
B. Area Map
C. Sample Data Sheet
D. G+W PCB Report Submitted to U.S. EPA by OEPA
E. Toxics Summary Report U.S. EPA
F. G+W PCB Report, 1981 - Versar

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Ashtabula Sediment Determination

FROM: Robert Springer, Director
Planning and Management Division

TO: Basil G. Constantelos, Director
Waste Management Division, 5H-13

The Corps of Engineers is planning a maintenance dredging project in the upstream reaches of the Federal channel at Ashtabula Harbor, Ohio. Because of the known contamination problem there, they subjected sediment samples to the RCRA EP-Toxicity test and to PCB analysis to determine if the sediments are hazardous and/or toxic.

Please review the attached information and provide us with your determination on whether or not the sediments are hazardous and toxic. If it is possible to tell from these data, we would appreciate your delineating toxic and hazardous areas from non-toxic and non-hazardous areas. A response is needed by ~~March~~ 25, 1983 so that we may forward the determination to the Corps. The information will be used by the Corps in their preparation of a draft EIS on the proposed project.

If you have any questions or need additional information, please call Jim Hooper (6-6694) of my staff.

Attachment

Sta 1 3 2' cores => 1 gal

2 3 1' cores

3 1' core

4 2' ft

5 2' ~~ft~~

EPA FORM 1320-6 (REV 3-76)

Contract #DACW49-82-C-0062

Ashtabula River Sediments Sampled on November 30 and December 2, 1982

EP TOXICITY TEST RESULTS

All Concentrations are mg/l (except Organics Analyses * which are µg/l)

ATEC Laboratory No.	--	3212-82	3213-82	3214-82	3215-82	3216-82	3217-82	US EPA
Description	Blank	Site 1A	Site 1B	Site 1C	Site 2A	Site 2B	Site 2C	Limits
Arsenic	<0.004	0.006	0.005	0.008	0.003	0.003	0.008	5.0
Barium	< 0.5	4.6	1.7	6.3	0.6	0.9	0.6	100
Cadmium	< 0.01	0.05	0.06	0.02	0.01	0.04	< 0.01	1.0
Chromium	< 0.03	0.10	0.03	0.11	< 0.03	< 0.03	< 0.03	5.0
Lead	< 0.03	0.06	0.04	0.14	< 0.03	0.07	< 0.03	5.0
Mercury	0.0006	0.0008	0.0012	0.0012	0.0014	<0.0004	0.003	0.2
Selenium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	1.0
Silver	< 0.01	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	5.0
Iron	0.01	12.1	17.0	19.6	0.31	0.28	0.13	---
Manganese	< 0.02	5.86	5.78	11.0	7.34	11.4	13.4	---
*2,4-D	< 0.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	10,000
*Silvex	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	1,000
*Lindane	< 0.02	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	400
*Endrin	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	20
*Methoxychlor	< 0.10	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60	10,000
*Toxaphene	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	500

Contract #DACW49-82-C-0062

Ashtabula River Sediments Sampled on November 30 and December 2, 1982

EP TOXICITY SPIKED SAMPLE ANALYSES

All Concentrations are mg/l (except Organics Analyses * which are µg/l)

ATEC Lab No.	Description	Parameter	Original Analysis	Amount of Spike	Spiked Sample Analysis	% Recovery
---	Blank	Barium	< 0.5	10.0	9.8	98
		Cadmium	< 0.01	2.00	1.87	94
		Chromium	< 0.03	2.00	1.82	91
		Lead	< 0.03	5.00	4.93	99
		Silver	< 0.01	1.00	0.82	82
		*2,4-D	< 0.2	0.50	0.38	76
		*Silvex	< 0.05	0.20	0.29	145
		*Lindane	< 0.02	0.09	0.08	87
		*Endrin	< 0.01	0.15	0.11	73
		*Methoxychlor	< 0.10	0.75	.65	87
		*Toxaphene	< 1.0	1.2	0.7	58
3214-83	Site 1C	Arsenic	0.008	0.050	0.077	138
		Barium	6.3	10.0	16.2	99
		Cadmium	0.02	2.00	1.91	95
		Chromium	0.11	2.00	1.79	84
		Lead	0.14	5.00	4.16	80
		Mercury	0.0012	0.0020	0.0028	80
		Selenium	<0.003	0.050	0.057	114
		Silver	0.2	1.00	0.92	92
3216-83	Site 2B	Arsenic	0.003	0.050	0.062	118
		Barium	0.9	10.0	9.8	89
		Cadmium	0.04	2.00	1.95	96
		Chromium	< 0.03	2.00	1.90	95
		Lead	0.07	5.00	4.84	95
		Mercury	<0.0004	0.0020	0.0021	105
		Selenium	< 0.003	0.050	0.043	86
		Silver	< 0.2	1.00	0.94	94

Table III. Inorganic Chemistry of Sediments Sampled from the Ashtabula River, Ashtabula, Ohio on November 30 and December 3, 1982.

Lab No. Identification	3207-82 Sediment #1	3208-82 Sediment #2	3209-82 Sediment #3	3210-82 Sediment #4	3211-82 Sediment #5
pH, S.U.	7.4	7.5	7.2	7.1	7.6
Total Solids, %	40.9	29.8	29.6	24.0	29.7
T. Cyanide, mg/kg	1.4	0.86	1.1	2.1	6.6
Phenols, mg/kg	0.27	0.45	<0.10	<0.12	<0.10
Antimony, mg/kg	<0.5	<0.5	<0.5	0.8	0.8
Arsenic, mg/kg	23	56	47	39	20
Barium, mg/kg	660	600	220	200	690
Beryllium, mg/kg	8	4	6	7	8
Cadmium, mg/kg	8	7	6	3	9
Chromium, mg/kg	629	214	64	132	541
Copper, mg/kg	50	66	35	34	69
Lead, mg/kg	89	79	63	56	88
Mercury, mg/kg	1.7	3.7	2.2	1.8	4.7
Nickel, mg/kg	51	46	32	28	55
Selenium, mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3
Silver, mg/kg	1	8	7	11	10
Thallium, mg/kg	< 5	< 5	< 5	< 5	< 5
Zinc, mg/kg	278	172	138	144	173
Asbestos, Fibers/gram	<2000	<2000	<2000	<2000	<2000

Table IV. Organic Chemistry of Sediments Sampled from the Ashtabula River, Ashtabula, Ohio, on November 30 and December 2, 1982.

Parameter	ATEC 3207-82	ATEC 3208-82	ATEC 3209-82	ATEC 3210-82	ATEC 3211-
	(All concentrations are mg/kg dry weight)				
BASE NEUTRAL FRACTION					
1,2-dichlorobenzene	44	8.1	4.0	1.7	30
1,3-dichlorobenzene	12	4.8	1.9	2.5	20
1,4-dichlorobenzene	110	76	24	15	220
hexachloroethane	<0.7	<0.9	<0.3	<0.3	<1.5
hexachlorobutadiene	2.0	0.2	0.1	0.1	0.5
hexachlorobenzene	9.9	10	2.1	1.5	32
1,2,4-trichlorobenzene	13	15	7.0	4.4	30
bis (2-chloroethoxy) methane	<8.0	<8.0	<8.0	<8.0	<8.0
naphthalene	<0.7	<0.7	<0.7	<0.7	<0.7
2-chloronaphthalene	<1.1	<1.1	<1.1	<1.1	<1.1
isophorone	<0.9	<0.9	<0.9	<0.9	<0.9
nitrobenzene	< 18	< 18	< 18	< 18	< 18
2,6-dinitrotoluene	<5.5	<5.5	<5.5	<5.5	<5.5
2,4-dinitrotoluene	<6.3	<6.3	<6.3	<6.3	<6.3
4-bromophenyl phenyl ether	<1.4	<1.4	<1.4	<1.4	<1.4
bis (2-ethylhexyl) phthalate	8.4	7.9	2.7	5.5	21
di-n-octyl phthalate	<1.5	<1.5	<1.5	<1.5	<1.5
dimethyl phthalate	<1.7	<1.7	<1.7	<1.7	<1.7
diethyl phthalate	<1.5	<1.5	<1.5	<1.5	<1.5
di-n-butyl phthalate	<1.2	<1.2	<1.2	<1.2	<1.2
acenaphthylene	<0.7	<0.7	<0.7	<0.7	<0.7
acenaphthene	<0.6	<0.6	<0.6	<0.6	<0.6
butyl benzylphthalate	<1.2	<1.2	<1.2	<1.2	<1.2
fluorene	<0.4	<0.4	<0.4	<0.4	<0.4
fluoranthene	<0.8	<0.8	<0.8	<0.8	<0.8
chrysene	<1.0	<1.0	<1.0	<1.0	<1.0
pyrene	<0.8	<0.8	<0.8	<0.8	<0.8
phenanthrene	<0.6	<0.6	<0.6	<0.6	<0.6
anthracene	<0.7	<0.7	<0.7	<0.7	<0.7

Table IV. Organic Chemistry of Sediments Sampled from the Ashtabula River, Ashtabula, Ohio, on November 30 and December 2, 1982 (Continued).

Parameter	ATEC 3207-82	ATEC 3208-82	ATEC 3209-82	ATEC 3210-82	ATE 3211-
	(All concentrations are mg/kg dry weight)				
VOLATILE ORGANICS					
acrolein	<1.0	<1.0	<1.0	<1.0	<1.0
acrylonitrile	<1.0	<1.0	<1.0	<1.0	<1.0
benzene	<0.01	<0.01	<0.01	<0.01	<0.0
toluene	0.07	<0.01	<0.01	<0.01	0.0
ethyl benzene	<0.02	<0.02	<0.02	<0.02	<0.0
carbon tetrachloride	<0.01	<0.01	<0.01	<0.01	<0.0
chlorobenzene	0.15	0.06	0.03	0.06	0.1
1,2-dichloroethane	<0.01	<0.01	<0.01	<0.01	<0.0
1,1,1-trichloroethane	<0.01	<0.01	<0.01	<0.01	<0.0
1,1-dichloroethane	<0.01	<0.01	<0.01	<0.01	<0.0
1,1-dichloroethylene	<0.01	<0.01	<0.01	<0.01	<0.0
1,1,2-trichloroethane	<0.01	<0.01	<0.01	<0.01	<0.0
1,1,2,2-tetrachloroethane	<0.01	<0.01	<0.01	<0.01	<0.0
chloroethane	<0.1	<0.1	<0.1	<0.1	<0.1
2-chloroethyl vinyl ether	<0.05	<0.05	<0.05	<0.05	<0.0
chloroform	<0.01	<0.01	<0.01	<0.01	<0.0
1,2-dichloropropane	<0.02	<0.02	<0.02	<0.02	<0.0
cis-1,3-dichloropropene	<0.02	<0.02	<0.02	<0.02	<0.0
trans-1,3-dichloropropene	<0.02	<0.02	<0.02	<0.02	<0.0
methylene chloride	<0.01	<0.01	<0.01	<0.01	<0.0
methyl chloride	<0.1	<0.1	<0.1	<0.1	<0.
methyl bromide	<0.1	<0.1	<0.1	<0.1	<0.
bromoform	<0.05	<0.05	<0.05	<0.05	<0.
dichlorobromomethane	<0.01	<0.01	<0.01	<0.01	<0.0
trichlorofluoromethane	<0.01	<0.01	<0.01	<0.01	<0.0
dichlorodifluoromethane	<0.01	<0.01	<0.01	<0.01	<0.
chlorodibromomethane	<0.01	<0.01	<0.01	<0.01	<0.
tetrachloroethylene	<0.01	<0.01	<0.01	<0.01	<0.
trichloroethylene	<0.01	<0.01	<0.01	<0.01	<0.
vinyl chloride	<0.1	<0.1	<0.1	<0.1	<0.
1,2-trans-dichloroethylene	<0.01	<0.01	<0.01	<0.01	<0.
bis(chloromethyl) ether	*	*	*	*	*

*Due to the instability of this compound and the related

Table IV. Organic Chemistry of Sediments Sampled from the Ashtabula River, Ashtabula, Ohio, on November 30 and December 2, 1982 (Continued).

Parameter	ATEC 3207-82	ATEC 3208-82	ATEC 3209-82	ATEC 3210-82	ATE 3211-
	(All concentrations are mg/kg dry weight).				
SDWA HERBICIDES					
2,4-D	<1.0	<1.0	<1.0	<1.0	<1.(
2,4,5-TP(silvex)	<0.5	<0.5	<0.5	<0.5	<0.5

Dredged Sediment Disposal Requirements

There is an EPA approval requirement for disposal of dredged sediment under TSCA, and there are EPA permit requirements for transport, interim handling and disposal of dredged sediment under RCRA. In order for these regulations to be satisfied, an upland site will be required.

In accordance with TSCA, there are specific design criteria for an acceptable chemical waste disposal site (40 CFR Part 761.41, Annex II). However, dredge material can be disposed by an alternative method (Part 761.10(a)(5)(iii)) which has no specific design criteria. In the past, the Annex II criteria have been used as guidelines.

Assuming the waste is hazardous, the disposal facility must be approved under TSCA, and have either interim status or a permit under RCRA. A new RCRA facility must follow the design/performance standards given in 40 CFR Part 267.

If the transportation of the waste is regulated under RCRA, the transporter must have a USEPA identification number and all shipments must be manifested.

If a holding area is used to dewater the sediment, a RCRA treatment permit is required for this operation.

It is my understanding that the next step is a joint letter, under both our signatures, to the local officials at Ashtabula. Please do not hesitate to call me at FTS 353-2000, or Barbara Backley, Chief, Environmental Review Branch at FTS 886-6690, if anything further is needed on our part or if there are any questions about our comments.

Sincerely yours,

Original Signed by
Valdas V. Adamkus
Valdas V. Adamkus
Regional Administrator

RS
4/26

4. If a holding area is used to dewater the sediment a RCRA treatment permit is required for this operation.

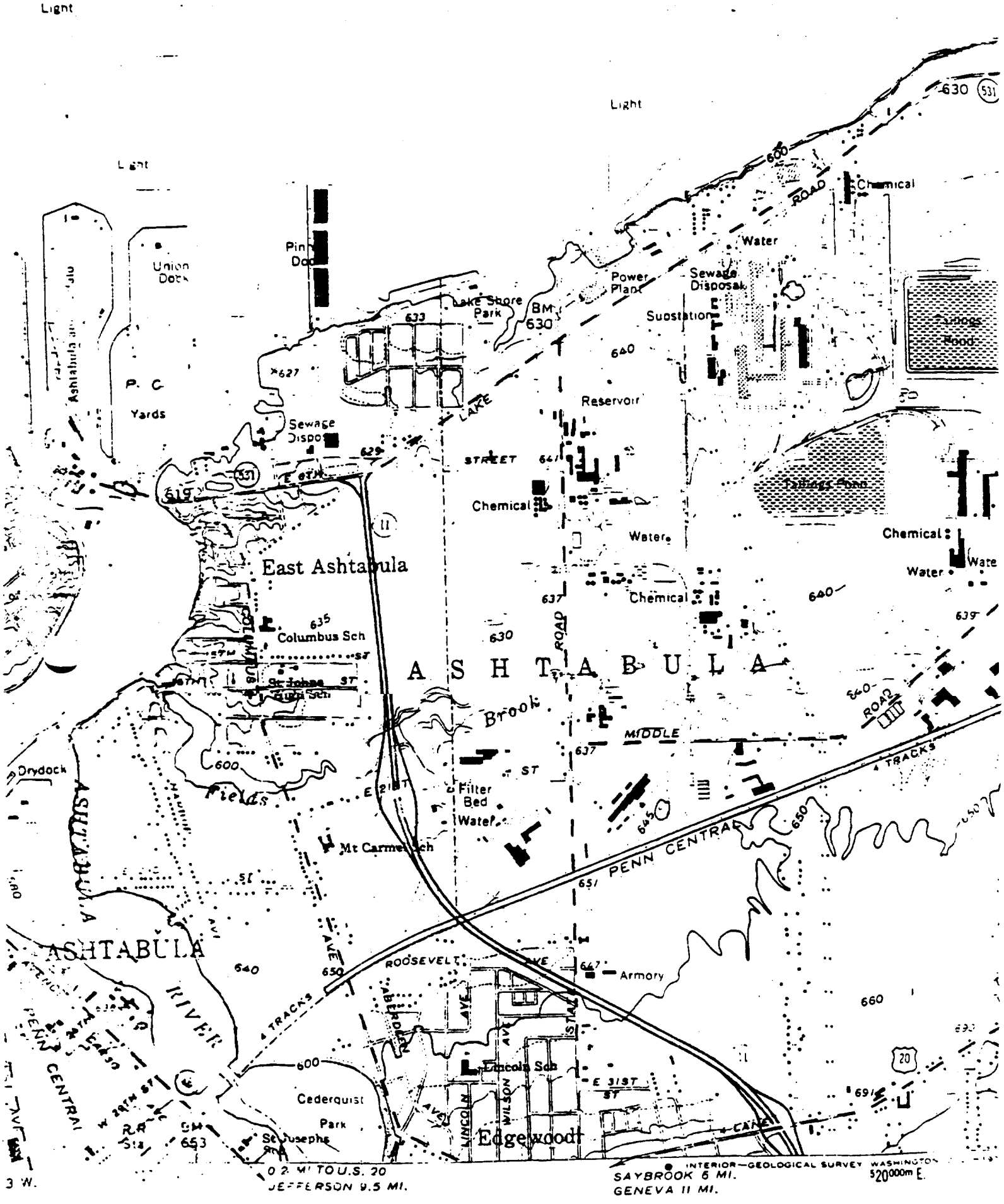
If an EP Toxicity Test was done on new sediment samples and the results showed that the sediment was not a hazardous waste, then the disposal, treatment and transportation would not be regulated under RCRA.

Please do not hesitate to call Dr. David Homer, at 886-3790, if you have any questions.

(4) Because the dredged sediment will be mostly comprised of water, an interim holding area may be required before hauling the sediment to a final disposal site. What design specifications would we require of a temporary holding area? Would it need to be permitted?

In order to meet our April 26 deadline, we need your comments by April 20. Please do not hesitate to call Barbara Backley (886-6690), or James Hooper (886-6694) if you have any questions or if you feel we need to meet about the project.

cc: M. McGrath, GLNPO



ROAD CLASSIFICATION

Medium-duty — — — Light-duty

Unimproved dirt

STATE of OHIO
DEPARTMENT OF HEALTH
Industrial Chemistry Section
1571 Perry Street
Columbus, Ohio 43201

AMPLE AND LABORATORY DATA SHEET Date Collected 6/28/83

istrict	Report to the following address:
CO - Emergency Response	361 E. Broad Street Columbus

mpling Technique (Apparatus-Collection Medium-Equipment)

Trowel for Sludges, JAR or Stainless Tank FB112

ollected By	Analysis Desired
Ken Harsh	PCB

ments:

GLW Natural Resources Group Poly Chlorinated Biphenyls

ate Shipped	Date Received	Received By	Shipment Method	Condition of Samp
	6-29-83	Paul Beauregard	Hand Carried	all OK

istrict ield mple #	ODH Lab Sample #	Operation and Sampling Location	Laboratory Results
GLW	ER600	Dike Pad #1 GLW	66 µg/g PCB 123
GLW	ER601	Debris From Trench below Dike Pad #1	620 µg/g PCB 124
GLW	ER602	FB112 Thermal Sludge Tank	13,000 µg/g PCB 124
GLW	ER603	Debris from trench from pump over flow	230 µg/g PCB 124
GLW	ER604	Thermal Fluid/Low Heater Loop	69 µg/g PCB 123
GLW	ER605	Debris from trench below pad #2 bed liner	1600 µg/g PCB 124
GLW	ER606	Composite from 2 work at Drum	< 5 µg/g PCB's

nal. s By Paul R Beauregard Date 8/25/83 Lab Supv. J Green

ER-8:

Ohio Department of Health

Industrial Chemistry Section

Environmental Sample Submission Report

Agency: Chic EPA
Division Program: ER
Analysis Reported To: ☒ CO ☐ CDO ☐ SE ☐ NE ☐ SW ☐ NW

Laboratory: ☒ Central ☐ SE ☐ NE ☐ SW ☐ NW
Sample Number: ER 454
Analyst: P Beaumont Supervisor: J Green
Date Received: 2-25-83
Date Reported: 3/14/83

Sample Identification

Station: Fields Brook
ID Number: SC, 2/15
Address: Upstream Olin
City: Ashtabula Zip:
County: Ashtabula Phone:
Collected By: Ken Haas / Steve Tuckerman

Grab Sample Date or Beginning Date of Composite Sample—Use Military Tir

Year	Month	Day	Hour	Minute
8 3	0 2	2 4	1 2	3 0

Ending Date of Composite Sample—Use Military Time

Year	Month	Day	Hour	Minute	CVT	S/T	TYP

Field Treatment:
☐ Filtered ☐ $CuSO_4 + H_3PO_4$
☐ Iced ☐ H_2SO_4
☐ NaOH ☐ HNO_3
☐ Other (Explain)

Additional Information—Analyst Remarks—Non Routine Analytical Requests
100 yds downstream power line shovel fine sediment

Radioisotopes

☐ Alpha, Total pc/l	P1501.
☐ Alpha, Diss pc/l	P1503.
☐ Alpha, Suspd pc/l	P1505.
☐ Beta, Total pc/l	P3501.
☐ Beta, Diss pc/l	P3503.
☐ P Suspd pc/l	P3505.
☐ [redacted] 140, Total pc/l	P75030.
☐ Cesium-134, Total pc/l	P28414.
☐ Cesium-137, Total pc/l	P28401.
☐ Iodine-131, Total pc/l	P28301.
☐ Potassium-40, Total pc/l	P75038.
☐ Radium-226, Total pc/l	P9501.
☐ Radium-228, Total pc/l	P11501.
☐ Strontium-90, Total pc/l	P13501.
☐ Strontium-89, Total pc/l	P15501.
☐ Tritium pc/l	P7000.

Volatile Organics

☐ Chloroform, Total ug/l	P32106.
☐ Methylene Chloride, Total ug/l	P34423.
☐ Carbon Tetrachloride, Total ug/l	P32102.
☐ Bromoform, Total ug/l	P32104.
☐ Bromodichloromethane, Total ug/l	P32101.
☐ Dibromochloromethane, Total ug/l	P32105.
☐ 1, 2-Dichloroethane, Total ug/l	P32103.
☐	
☐	
☐	
☐	
☐	

Pesticides

☐ Aldrin, Whl Sampl ug/l	P39330.
☐ DDD, Whl Sampl ug/l	P39360.
☐ DDE, Whl Sampl ug/l	P39365.
☐ DDT, Whl Sample ug/l	P39370.
☐ Dieldrin, Whl Sampl ug/l	P39380.
☐ Chlordane, Whl Sampl ug/l	P39350.
☐ Endrin, Whl Sampl ug/l	P39390.
☐ Heptachlor, Whl Sampl ug/l	P39410.
☐ Hchlr-Epoxide, Whl Sampl ug/l	P39420.
☐ Lindane, Whl Sampl ug/l	P39782.
☐ Methoxychlor, Whl Sampl ug/l	P39480.
☐ Malathion, Whl Sampl ug/l	P39530.
☐ Parathion, Whl Sampl ug/l	P39540.
☐ Methyl Parathn, Whl Sampl ug/l	P39600.
☐ Toxaphene, Whl Sampl ug/l	P39400.
☐ 2, 4-D, Whl Sampl ug/l	P39730.
☐ Silvex, Whl Sampl ug/l	P39760.
☐ BHC, Whl Sampl ug/l	P39340.
☐ Mirex, Whl Sampl ug/l	P39755.
☐ Diazinon, Whl Sampl ug/l	P39570.

Special Parameters

☒ PCB, Whl Sampl ug/l	P39516. <0.25
☐ Chlorophyll "A" ug/l	P32209.
☐ Phenols ug/l	P32730.
☐ Sample Purpose	P71999.
☐ Sample Code	P115.
☐	
☐	
☐	

Distribution: 1—Data Processing 2—Central Office 3—District Office 4—Owner 5—Laboratory

E2-8

Ohio Department of Health

Industrial Chemistry Section

Environmental Sample Submission Report

Agency: Ohio EPA
Division Program: E2
Analysis Reported To: ☒ CO ☐ CDO ☐ SE ☐ NE ☐ SW ☐ NW

Laboratory: ☒ Central ☐ SE ☐ NE ☐ SW ☐ NW
Sample Number: EA 456
Analyst: PBeauregard Supervisor: JBurn
Date Received: 2-25-83
Date Reported: 3/14/83

Sample Identification

Station: FIELDS Brook
ID Number: SC, B/10
Address: State Rd upstream 150 yds
City: Pickaway Zip:
County: Pickaway Phone:
Collected By: Kai Hoard / Steve Rockwell

Grab Sample Date or Beginning Date of Composite Sample—Use Military Time

Year	Month	Day	Hour	Minute
8 3	0 2	2 4	1 3	1 0

Ending Date of Composite Sample—Use Military Time

Year	Month	Day	Hour	Minute	CVT	S/T	TY

Field Treatment:
☐ Filtered ☐ $CuSO_4 + H_3PO_4$
☐ Iced ☐ H_2SO_4
☐ NaOH ☐ HNO_3
☐ Other (Explain)

Additional Information—Analyst Remarks—Non Routine Analytical Requests
S. Bank - oily sheen noted on Sediment to Gilday upstream

Radioisotopes

☐ Alpha, Total pc/l	P1501.
☐ Alpha, Diss pc/l	P1503.
☐ Alpha, Susod pc/l	P1505.
☐ Beta, Total pc/l	P3501.
☐ Beta, Diss pc/l	P3503.
☐ Susod pc/l	P3505.
☐ m 140, Total pc/l	P75030.
☐ Cesium-134, Total pc/l	P28414.
☐ Cesium-137, Total pc/l	P28401.
☐ Iodine-131, Total pc/l	P28301.
☐ Potassium-40, Total pc/l	P75038.
☐ Radium-226, Total pc/l	P9501.
☐ Radium-228, Total pc/l	P11501.
☐ Strontium-90, Total pc/l	P13501.
☐ Strontium-89, Total pc/l	P15501.
☐ Tritium pc/l	P7000.

Volatile Organics

☐ Chloroform, Total ug/l	P32106.
☐ Methylene Chloride, Total ug/l	P34423.
☐ Carbon Tetrachloride, Total ug/l	P32102.
☐ Bromoform, Total ug/l	P32104.
☐ Bromodichloromethane, Total ug/l	P32101.
☐ Dibromochloromethane, Total ug/l	P32105.
☐ 1, 2-Dichloroethane, Total ug/l	P32103.
☐	
☐	
☐	
☐	
☐	

Pesticides

☐ Aldrin, Whl Sampl ug/l	P39330.
☐ DDD, Whl Sampl ug/l	P39360.
☐ DDE, Whl Sampl ug/l	P39365.
☐ DDT, Whl Sample ug/l	P39370.
☐ Dieldrin, Whl Sampl ug/l	P39380.
☐ Chlordane, Whl Sampl ug/l	P39350.
☐ Endrin, Whl Sampl ug/l	P39390.
☐ Heptachlor, Whl Sampl ug/l	P39410.
☐ Hchlr-Epoxide, Whl Sampl ug/l	P39420.
☐ Lindane, Whl Sampl ug/l	P39782.
☐ Methoxychlor, Whl Sampl ug/l	P39480.
☐ Malathion, Whl Sampl ug/l	P39530.
☐ Parathion, Whl Sampl ug/l	P39540.
☐ Methyl Parathn, Whl Sampl ug/l	P39600.
☐ Toxaphene, Whl Sampl ug/l	P39400.
☐ 2, 4-D, Whl Sampl ug/l	P39730.
☐ Silvex, Whl Sampl ug/l	P39760.
☐ BHC, Whl Sampl ug/l	P39340.
☐ Mirex, Whl Sampl ug/l	P39755.
☐ Diazinon, Whl Sampl ug/l	P39570.

Special Parameters

☒ PCB, Whl Sampl ug/g PCB 1248	P39516. 650
☐ Chlorophyll "A" ug/l	P32209.
☐ Phenols ug/l	P32730.
☐ Sample Purpose	P71999.
☐ Sample Code	P115.
☐	
☐	
☐	

Distribution: 1—Data Processing 2—Central Office 3—District Office 4—Owner 5—Laboratory

E2-65

Ohio Department of Health

Industrial Chemistry Section

Environmental Sample Submission Report

Agency: Ohio EPA
Division Program: E2
An[illegible]is Reported To: ☒ CO ☐ CDO ☐ SE ☐ NE ☐ SW ☐ NW

Laboratory: ☒ Central ☐ SE ☐ NE ☐ SW ☐ NW
Sample Number: ER 458
Analyst: P. Beaumont Supervisor: J. Shaw
Date Received: 9-25-83
Date Reported: 3/21/83

Sample Identification

Station: FIELDS Brook
ID Number: SC, 6/10
Address: 100 yds. downstream Stateed
City: ASHTABULA Zip:
County: ASHTABULA Phone:
Collected By: Ken Hodge II / Steve Tucker

Grab Sample Date or Beginning Date of Composite Sample—Use Military Time

Year	Month	Day	Hour	Minute
8 3	0 2	2 4	1 3	4 5

Ending Date of Composite Sample—Use Military Time

Year	Month	Day	Hour	Minute	CVT	S/T	TYP
					☐	☐	☐

Field Treatment:
☐ Filtered ☐ $CuSO_4 + H_3PO_4$
☐ Iced ☐ H_2SO_4
☐ NaOH ☐ HNO_3
☐ Other (Explain)

Additional Information—Analyst Remarks—Non Routine Analytical Requests

6 + 11 deep - below several grey (Titanium?) layers, probably over 5 years old sediment (5-10 yrs ±) some oil in sediment hard scraping.

Radioisotopes

☐ Alpha, Total pc/l	P1501.
☐ Alpha, Diss pc/l	P1503.
☐ Alpha, Suspd pc/l	P1505.
☐ Beta, Total pc/l	P3501.
☐ Beta, Diss pc/l	P3503.
☐ B[illegible]usod pc/l	P3505.
☐ B[illegible]l 140, Total pc/l	P75030.
☐ Cesium-134, Total pc/l	P28414.
☐ Cesium-137, Total pc/l	P28401.
☐ Iodine-131, Total pc/l	P28301.
☐ Potassium-40, Total pc/l	P75038.
☐ Radium-226, Total pc/l	P9501.
☐ Radium-228, Total pc/l	P11501.
☐ Strontium-90, Total pc/l	P13501.
☐ Strontium-89, Total pc/l	P15501.
☐ Tritium pc/l	P7000.

Volatile Organics

☐ Chloroform, Total ug/l	P32106.
☐ Methylene Chloride, Total ug/l	P34423.
☐ Carbon Tetrachloride, Total ug/l	P32102.
☐ Bromoform, Total ug/l	P32104.
☐ Bromodichloromethane, Total ug/l	P32101.
☐ Dibromochloromethane, Total ug/l	P32105.
☐ 1, 2-Dichloroethane, Total ug/l	P32103.
☐	
☐	
☐	
☐	
☐	

Pesticides

☐ Aldrin, Whl Sampl ug/l	P39330.
☐ DDD, Whl Sampl ug/l	P39360.
☐ DDE, Whl Sampl ug/l	P39365.
☐ DDT, Whl Sample ug/l	P39370.
☐ Dieldrin, Whl Sampl ug/l	P39380.
☐ Chlordane, Whl Sampl ug/l	P39350.
☐ Endrin, Whl Sampl ug/l	P39390.
☐ Heptachlor, Whl Sampl ug/l	P39410.
☐ Hchlr-Epoxide, Whl Sampl ug/l	P39420.
☐ Lindane, Whl Sampl ug/l	P39782.
☐ Methoxychlor, Whl Sampl ug/l	P39480.
☐ Malathion, Whl Sampl ug/l	P39530.
☐ Parathion, Whl Sampl ug/l	P39540.
☐ Methyl Parathn, Whl Sampl ug/l	P39600.
☐ Toxaphene, Whl Sampl ug/l	P39400.
☐ 2, 4-D, Whl Sampl ug/l	P39730.
☐ Silvex, Whl Sampl ug/l	P39760.
☐ BHC, Whl Sampl ug/l	P39340.
☐ Mirex, Whl Sampl ug/l	P39755.
☐ Diazinon, Whl Sampl ug/l	P39570.

Special Parameters

☒ PCB, Whl Sampl ug/l 9	P39516. < 0.25
☐ Chlorophyll "A" ug/l	P32209.
☐ Phenols ug/l	P32730.
☐ Sample Purpose	P71999.
☐ Sample Code	P115.
☐	
☐	
☐	

Distribution: 1—Data Processing 2—Central Office 3—District Office 4—Owner 5—Laboratory

ER-80

Ohio Department of Health

Industrial Chemistry Section

Environmental Sample Submission Report

Agency: Ohio EPA
Division Program: EP
Analysis Reported To: ☒ CO ☐ CDO ☐ SE ☐ NE ☐ SW ☐ NW

Laboratory: ☒ Central ☐ SE ☐ NE ☐ SW ☐ NW
Sample Number: ER 460
Analyst: C. Beaney and Supervisor: G Green
Date Received: 1-25-83
Date Reported: 3/22/83

Sample Identification

Station: Fields Brook
ID Number: SC, 8/10
Address: Rt 11 75 yds. downstream
City: Ashtabula Zip:
County: Ashtabula Phone:
Collected By: Ken Harsh / Steve Tuckerman

Grab Sample Date or Beginning Date of Composite Sample—Use Military Ti

Year	Month	Day	Hour	Minute
8 3	0 2	2 4	1 4	1 5

Ending Dat- of Composite Sample—Use Military Time

Year	Month	Day	Hour	Minute	CVT	S/T	TYP

Field Treatment:
☐ Filtered ☐ $CuSO_4 + H_3PO_4$
☐ Iced ☐ H_2SO_4
☐ NaOH ☐ HNO_3
☐ Other (Explain)

Additional Information—Analyst Remarks—Non Routine Analytical Requests
9-8" deep some oil on it —

Radioisotopes

☐ [illegible]ha, Total pc/l	P1501,
☐ [illegible]a, Diss pc/l	P1503,
☐ Alpha, Suspd pc/l	P1505,
☐ Beta, Total pc/l	P3500,
☐ Beta, Diss pc/l	P3502,
☐ Beta, Suspd pc/l	P3505,
☐ [illegible]m-140, Total pc/l	P75030,
☐ Cesium-134, Total pc/l	P28414,
☐ Cesium-137, Total pc/l	P28401,
☐ Iodine-131, Total pc/l	P28301,
☐ Potassium-40, Total pc/l	P75038,
☐ Radium-226, Total pc/l	P9501,
☐ Radium-228, Total pc/l	P11501,
☐ Strontium-90, Total pc/l	P13501,
☐ Strontium-89, Total pc/l	P15501,
☐ Tritium pc/l	P7000,

Volatile Organics

☐ Chloroform, Total ug/l	P32106,
☐ Methylene Chloride, Total ug/l	P34423,
☐ Carbon Tetrachloride, Total ug/l	P32102,
☐ Bromoform, Total ug/l	P32104,
☐ Bromodichloromethane, Total ug/l	P32101,
☐ Dibromochloromethane, Total ug/l	P32105,
☐ 1, 2-Dichloroethane, Total ug/l	P32103,
☐	
☐	
☐	
☐	
☐	

Pesticides

☐ Aldrin, Whl Sampl ug/l	P39330,
☐ DDD, Whl Sampl ug/l	P39360,
☐ DDE, Whl Sampl ug/l	P39365,
☐ DDT, Whl Sample ug/l	P39370,
☐ Dieldrin, Whl Sampl ug/l	P39380,
☐ Chlordane, Whl Sampl ug/l	P39350,
☐ Endrin, Whl Sampl ug/l	P39390,
☐ Heptachlor, Whl Sampl ug/l	P39410,
☐ Hchlr-Epoxide, Whl Sampl ug/l	P39420,
☐ Lindane, Whl Sampl ug/l	P39782,
☐ Methoxychlor, Whl Sampl ug/l	P39480,
☐ Malathion, Whl Sampl ug/l	P39530,
☐ Parathion, Whl Sampl ug/l	P39540,
☐ Methyl Parathn, Whl Sampl ug/l	P39600,
☐ Toxaphene, Whl Sampl ug/l	P39400,
☐ 2, 4-D, Whl Sampl ug/l	P39730,
☐ Silvex, Whl Sampl ug/l	P39760,
☐ BHC, Whl Sampl ug/l	P39340,
☐ Mirex, Whl Sampl ug/l	P39755,
☐ Diazinon, Whl Sampl ug/l	P39570,

Special Parameters

☒ PCB, Whl Sampl ug/g	P39516, <0.25
☐ Chlorophyll "A" ug/l	P32209,
☐ Phenols ug/l	P32730,
☐ Sample Purpose	P71999
☐ Sample Code	P115,
☐	
☐	
☐	

Distribution: 1—Data Processing 2—Central Office 3—District Office 4—Owner 5—Laboratory

ER-80

Ohio Department of Health

Industrial Chemistry Section

Environmental Sample Submission Report

Agency: Ohio EPA

Division Program:

Analysis Reported To: ☒ CO ☐ CDO ☐ SE ☐ NE ☐ SW ☐ NW

Laboratory: ☒ Central ☐ SE ☐ NE ☐ SW ☐ NW

Sample Number: ER 461

Analyst: C. Beery Supervisor:

Date Received: 2-25-83

Date Reported: 3/22/83

Sample Identification

Station: STROUD Brook

ID Number: SC

Address: [illegible] Jack's [illegible]

City: [illegible] Zip:

County: [illegible] Phone:

Collected By: Dan HARSH / Steve Tuckerman

Grab Sample Date or Beginning Date of Composite Sample—Use Military T

Year	Month	Day	Hour	Minute
83	02	24	[illegible]	37

Ending Date of Composite Sample—Use Military Time

Year	Month	Day	Hour	Minute	CVT	S/T	TY

Field Treatment:

☐ Filtered ☐ $CuSO_4 + H_3PO_4$
☐ Iced ☐ H_2SO_4
☐ NaOH ☐ HNO_3
☐ Other (Explain)

Additional Information—Analyst Remarks—Non Routine Analytical Requests

6" deep some sewage fungus, some oil sheen

Radioisotopes

☐ Alpha, Total pci/l	P1501.
☐ Alpha, Diss pci/l	P1503.
☐ Alpha, Suspd pci/l	P1509.
☐ Beta, Total pci/l	P3501.
☐ Beta, Diss pci/l	P3503.
☐ Beta, Suspd pci/l	P3505.
☐ [illegible]rium 140, Total pci/l	P75030.
☐ [illegible]sium-134, Total pci/l	P28414.
☐ Cesium-137, Total pci/l	P25401.
☐ Iodine-131, Total pci/l	P28301.
☐ Potassium-40, Total pci/l	P75038.
☐ Radium-226, Total pci/l	P9501.
☐ Radium-228, Total pci/l	P11501.
☐ Strontium-90, Total pci/l	P13501.
☐ Strontium-89, Total pci/l	P13507.
☐ Tritium pci/l	P7000.

Volatile Organics

☐ Chloroform, Total ug/l	P32106.
☐ Methylene Chloride, Total ug/l	P34423.
☐ Carbon Tetrachloride, Total ug/l	P32102.
☐ Bromoform, Total ug/l	P32104.
☐ Bromodichloromethane, Total ug/l	P32101.
☐ Dibromochloromethane, Total ug/l	P32105.
☐ 1, 2-Dichloroethane, Total ug/l	P32103.
☐	
☐	
☐	
☐	
☐	

Pesticides

☐ Aldrin, Whl Sampl ug/l	P39330.
☐ DDD, Whl Sampl ug/l	P39360.
☐ DDE, Whl Sampl ug/l	P39365.
☐ DDT, Whl Sample ug/l	P39370.
☐ Dieldrin, Whl Sampl ug/l	P39380.
☐ Chlordane, Whl Sampl ug/l	P39350.
☐ Endrin, Whl Sampl ug/l	P39390.
☐ Heptachlor, Whl Sampl ug/l	P39410.
☐ Hcmlr-Epoxide, Whl Sampl ug/l	P39420.
☐ Lindane, Whl Sampl ug/l	P39782.
☐ Methoxychlor, Whl Sampl ug/l	P39480.
☐ Malathion, Whl Sampl ug/l	P39530.
☐ Parathion, Whl Sampl ug/l	P39540.
☐ Methyl Parathn, Whl Sampl ug/l	P39600.
☐ Toxaphene, Whl Sampl ug/l	P39400.
☐ 2, 4-D, Whl Sampl ug/l	P39730.
☐ Silvex, Whl Sampl ug/l	P39760.
☐ BHC, Whl Sampl ug/l	P39340.
☐ Mirex, Whl Sampl ug/l	P39755.
☐ Diazinon, Whl Sampl ug/l	P39570.

Special Parameters

☒ PCB, Whl Sampl ug/l 9	P39516. < 0.25
☐ Chlorophyll "A" ug/l	P32209.
☐ Phenols ug/l	P32730.
☐ Sample Purpose	P71999.
☐ Sample Code	P115.
☐	
☐	
☐	

Distribution: 1—Data Processing 2—Central Office 3—District Office 4—Owner 5—Laboratory

(4999.32) Ohio Department of Health

REPORT ON INSPECTION TO DETERMINE COMPLIANCE WITH THE PCB DISPOSAL AND MARKING REGULATIONS

Gulf + Western Industries/Chemicals Division
Natural Resources Group
P. O. Box 160 - Middle Road
Ashtabula, Ohio 44004
216/997-5501

June 28, 1983

PERFORMED BY:

OHIO ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF EMERGENCY RESPONSE

P. O. BOX 1049, 361 E. BROAD STREET

COLUMBUS, OHIO 43216

AS AUTHORIZED UNDER THE U.S. EPA

PILOT TSCA COOPERATIVE ENFORCEMENT

AGREEMENT PROGRAM.

VI. Inspection Summary

A. Opening Conference

A Notice of Inspection and a TSCA Inspection Confidentiality Notice were issued to Mr. Towner, Plant Manager.

The PCB program at Gulf + Western Natural Resources Group (G+W) was discussed. Annual reports and other documents pertinent to the PCB program were reviewed.

For ease in understanding, the PCB items will be discussed in association with either one of the two plants they are servicing:

1. the titanium dioxide plant (TiO_2), or
2. the titanium tetrachloride plant ($TiCl_4$).

The G+W annual PCB report for 1982 refers to these as the Oxide Unit and the $TiCl_4$ Unit respectively.

B. Electrical Equipment

There are three PCB Transformers containing a total of 16,300 pounds of PCB in use at the $TiCl_4$ Unit. The transformers have been completely diked, thereby altering the inspection regime to a yearly requirement.

There are 18 capacitors containing 502.6 pounds of PCB in use at the Oxide Unit.

C. Hydraulic Systems

There are no hydraulic systems located at this facility.

D. Heat Transfer Systems

There is a PCB-contaminated heat transfer system located at the $TiCl_4$ Unit. The heat transfer system consists of the 5,000 gallon Therminol Storage Tank (FB-458), and the Expansion Tank (FB-459) which is continuous with the piping loop.

G+W officials stated Monsanto visited their facility and drained the heat transfer system sometime around 1970, although they did not specify why the heat transfer fluid was being removed. After the promulgation of the PCB regulations G+W tested the system and found it to contain 17,000 ppm PCB.

G+W first drained and refilled the heat transfer system in October 1979. To date the system has been drained and flushed four times.

The G+W Annual PCB Report for 1982 lists the level of PCB contamination presently in the heat transfer system at 32 ppm. The Ohio EPA sampled oil from the drip pan below the looped heat exchanger (photos 1 and 2) and from the heat pump loop and found levels of 66 ppm and 69 ppm respectively.

J. Oils

Waste oils are accumulated in 55 gallon drums. Low level PCB contamination was found in some waste oils in the past, so composite samples are drawn from the drums before disposing of them. Mr. Steinbronn stated they have burned waste oil on site in the past, and they also have dealt with Poplar Oil Company.

A composite sample collected from two drums of waste oil did not contain detectable levels of PCBs.

K. Drain Systems

The heat transfer system and all the piping, tanks, and pumps associated with it are located outside. G+W has taken pains to dike areas where leaks and runoff could occur.

There is a grated rainwater trench running underneath the looped heat exchanger (Photos 2 and 3). This trench drains to the onsite treatment system consisting of lagoons and a clarifier. A debris sample collected from this trench contained 620 ppm Aroclor 1248.

An abandoned stormwater trench leads from the pump overflow to Fields Brook. A composite soil sample collected from this ditch contained 330 ppm Aroclor 1248.

A debris sample collected inside the containment dike surrounding the piping loop and pumps contained 1600 ppm Aroclor 1248.

L. Spills

G+W has not had a spill or leak from a transformer or capacitor except for minor weeping around gaskets.

The looped heat exchanger was dripping at the time of this inspection, but the leak was contained in the drip pan. Mr. Steinbronn stated the exchanger had leaked more in the past until a gasket was replaced.

There was also oil in the dike below the piping loop. Mr. Steinbronn stated this dike was put in place sometime around 1978-1979.

M. Interim Measures Program

The PCB Transformer inspection and maintenance logs are contained in the annual report in Appendix D. The transformers have been inspected quarterly since April 1981.

The transformers have been diked with containment capacity equaling 100% of the volume of the oil, therefore G+W has switched to a yearly inspection schedule.

United States Environmental Protection Agency

TSCA Inspection Confidentiality Notice

Facility: GULF & WESTERN IND/CHEMICAL DI

Facility Address: Natural Resources Grp
Middle Rd/POB 160
Ashtabula, OH 44004

Inspector Name: PATRICIA VLAHR

Inspector Address: OHIO EPA
361 E. BROAD ST.
COLUMBUS OH 43216

Chief Executive Officer of Firm: Mr. Doug Towner

Title: Manager

Name of Individual to Whom Notice Given: Mr. Doug Towner

Title: Plant Manager

It is possible that EPA will receive public requests for release of the information obtained during inspection of the facility above. Such requests will be handled by EPA in accordance with provisions of the Freedom of Information Act (FOIA), 5 U.S.C. 552, EPA regulations issued thereunder, 40 CFR Part 2; and the Toxic Substances Control Act, Section 14. EPA is required to make inspection data available in response to FOIA requests unless the Administrator of the Agency determines that the data contains information entitled to confidential treatment.

Any or all the information collected by EPA during the inspection may be claimed confidential if it relates to trade secrets or commercial or financial matters that you consider to be confidential. If you make claims of confidentiality, EPA will disclose the information only to the extent, and by means of the procedures, set forth in the regulations (cited above) governing EPA's treatment of confidential information. Among other things, the regulations require that EPA notify you in advance of publicly disclosing any information you have claimed and certified confidential.

To Claim Confidential Information

To claim information confidential, you must certify that each claimed item meets all of the following criteria:

1. Your company has taken measures to protect the confidentiality of the information, and it intends to continue to take such measures.
2. The information is not, and has not been, reasonably obtainable without your company's consent by other persons (other than governmental bodies) by use of legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding).
3. The information is not publicly available elsewhere.
4. Disclosure of the information would cause substantial harm to your company's competitive position.

At the completion of the inspection, you will be given a receipt for all documents, samples, and other materials collected. At that time, you may make claims that some or all of the information is confidential and meets the four criteria listed above.

If you are not authorized by your company to make confidentiality claims, this notice will be sent by certified mail, along with the receipt for documents, samples, and other materials to the Chief Executive Officer of your firm within two days of this date. The Chief Executive Officer must return a statement specifying any information which should receive confidential treatment.

The statement from the Chief Executive Officer should be addressed to:

Mr. Paul Meriage, Document Control Officer
U.S. EPA 5WMDTM 230 S. Dearborn St.
Chicago, Ill. 60604

and mailed by registered, return-receipt-requested mail within seven (7) calendar days of receipt of this Notice.

Failure by your firm to submit a written request that information be treated as confidential, either at the completion of the inspection or by the Chief Executive Officer within the seven-day period, will be treated by EPA as a waiver by your company of any claims for confidentiality regarding the inspection data.

To be completed by facility official receiving this notice

I have received and read this Notice.

Name: DOUGLAS A. TOWNER

Title: PLANT MANAGER

Signature: Douglas A. Towner

Date: 6-28-83

If there is no one on the premises of the facility who is authorized to make business confidentiality claims for the firm, a copy of this Notice and other inspection materials will be sent to the company's chief executive officer. If there is another company official who should also receive this information, please designate below.

Name:

Title:

Address:

APPENDICES

A. Notice of Inspection
TSCA Inspection Confidentiality Notice
Declaration of CBI
Receipt for Samples

B. Laboratory Analyses

C. Photographs

D. Records

1. Annual PCB Report for 1982

EPA United States Environmental Protection Agency

RECEIPT FOR SAMPLES AND DOCUMENTS

Inspector Name: PATRICIA KLAHR	Name of Firm: Gulf & Western Ind/Chemical Div Firm Address: Nat. Res. Grp Middle Road Ashtabula, OH 44004
Inspector Address: OHIO EPA 361 E. BROAD ST. COLUMBUS 43216	Name of Individual: Mr. Doug Towner Title: Plant Manager
Date Collected: 6-23-83	Duplicate Samples Requested and Received: (X) Yes ( ) No
	Sample Numbers: 16w - 76w

The documents and samples of chemical substances and/or mixtures described below were collected in connection with the administration and enforcement of the Toxic Substances Control Act.

Receipt for the document(s) and/or sample(s) described is hereby acknowedged:

Documents

① Annual Reports for 1978, 1979 and 1982

② copy of purchase request for disposal of Therminol through Rollins

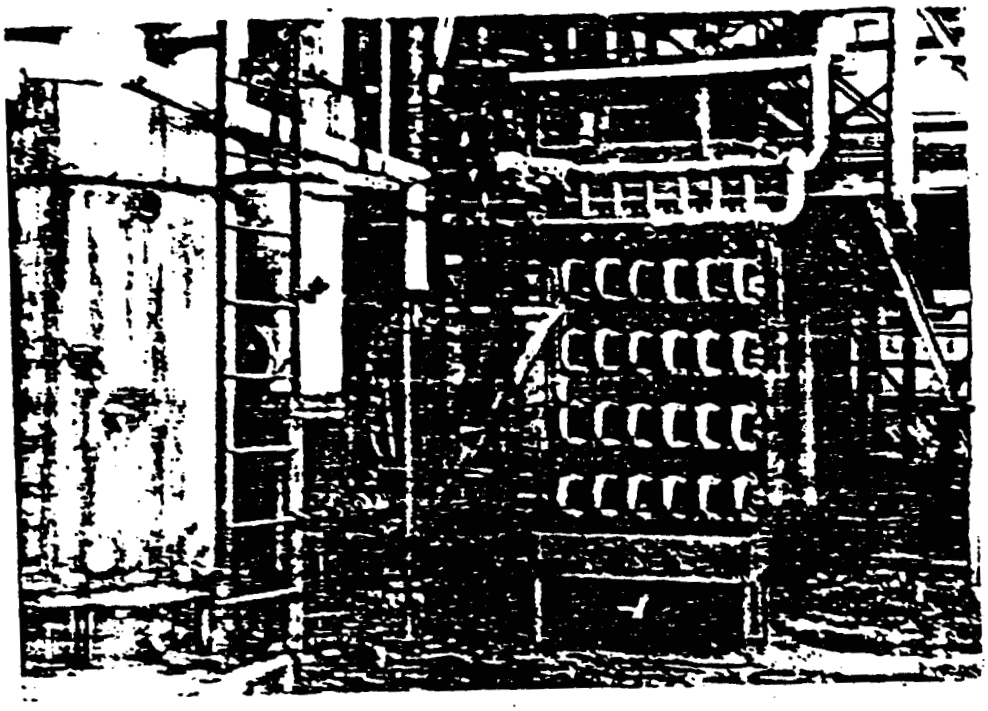
③ blueprint of facility ($TiCl_4$)

Sample

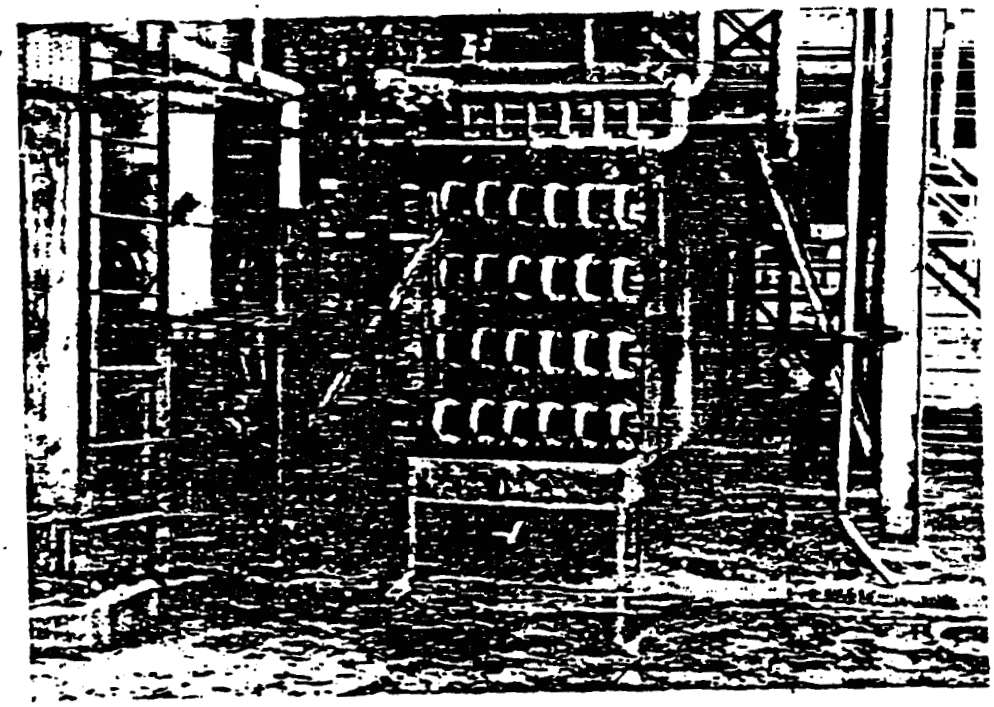
1. Drip pan oil
2. Dirt / Debris in trench below drip pan
3. Therminol Storage tank
4. debris from trench overflow pump
5. therminol from Heat pump Loop
6. Debris from below loop around Lifted Area
7. waste oil from 2 waste oil drums

Duplicate samples for 1. Heat pump Loop
2. Waste oil

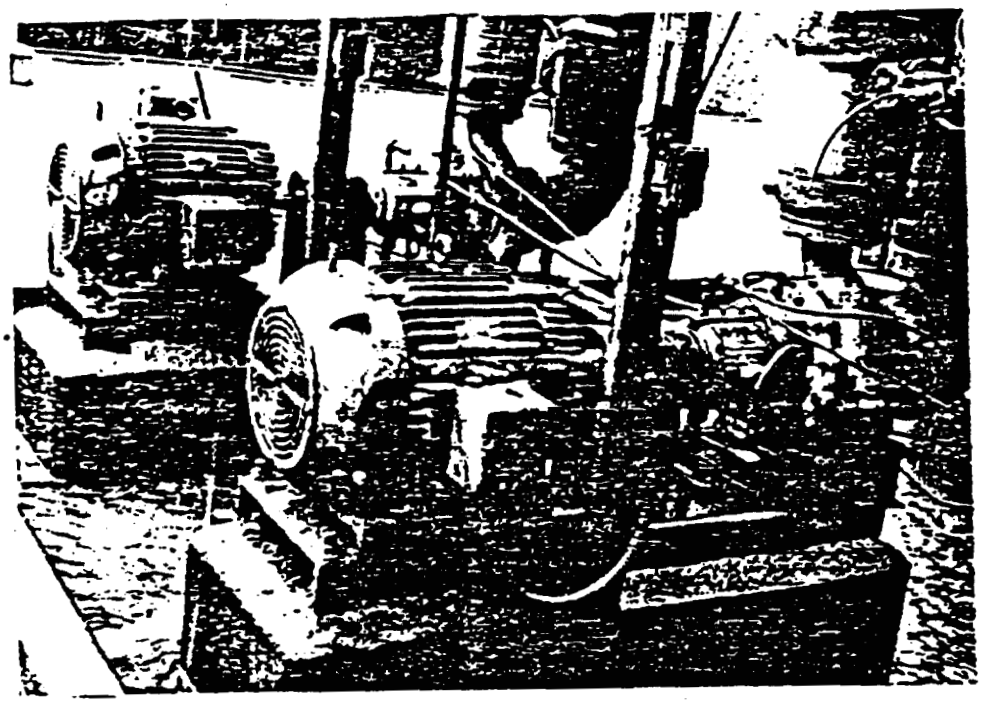
Signature of Inspector: K. M. Klahr	Signature of Owner, Operator, or Agent: D. Towner
Title: Asst. Chief Emergency Response	Title: Plant Manager



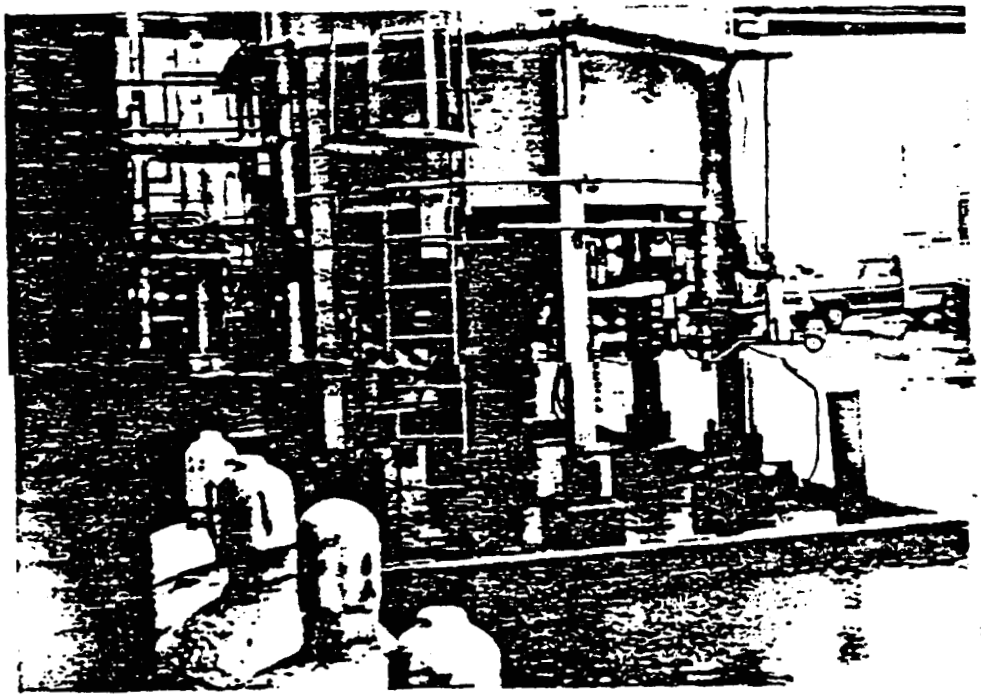
1. Looped heat exchanger.



2. Looped heat exchanger.



5. Pumps for heat transfer system located inside a dike.



6. Heat transfer system.

JANUARY 11, 1983

ANNUAL PCB REPORT - 1982

The status of the therminol heat transfer system remains unchanged. The recirculating loop was sampled on June 7, 1982 and analyzed at 32 ppm PCB. The loop and expansion tank content of 2,302 gallons contains 0.48 pounds PCB.

The contaminated therminol is still being stored in FB-112. The tank was sampled on October 4, 1982 at 12 inch intervals to compensate for possible stratification. The PCB concentration ranged from 7,960 to 11,490 ppm and the total content is 855.5 pounds PCB. Samples of this material were sent to Sunohio on October 5 for development work to adapt the PCBX process to contaminated heat transfer fluids.

Three (3) transformers with a total of 16,300 pounds PCB are still in use at the $TiCl_4$ Unit, and eighteen (18) capacitors with 502.6 pounds PCB at the Oxide Unit. The transformers were inspected at three month intervals as required by the Interim Measures Program. Maintenance was performed on transformers 6420 and 6421 by Transformer Service, Inc. on November 1, 1982. The switches of these transformers were sampled by TSI for PCB on October 20 and drained on November 1. The PCB contaminated fluid was removed from the premises by TSI and is being stored for ultimate disposal at the Rollins Environmental facility in Deer Park, Texas (Manifest attached).

A total of 63 empty PCB contaminated drums and 6 drums filled with PCB articles were disposed of March 26, 1982 by Chemical Waste Management, Inc. (Manifest attached). The U. S. EPA was notified that these articles, which had been the cause of a notice of non-compliance in 1981, had been disposed of in a proper manner.

A. C. Steinbronn
$TiCl_4$ Unit Superintendent

Attachments - please see following page
kr
cc: SPCC Plan
ACSteinbronn

PCB INVENTORY - DECEMBER 1982

1. THERMINOL SYSTEM

A. Storage Tank (FB-458)

Empty

B. Expansion Tank (FB-459)

488 gals. @ 75°F = 3,601 pounds therminol

Assume PCB concentration same as piping loop = 32 ppm

3,601 pounds @ 32 ppm = 0.12 pounds PCB

C. Piping Loop

1,814 gals. @ 470°F = 11,174 pounds therminol

11,174 pounds @ 32 ppm = 0.36 pounds PCB

D. Waste Therminol Storage Tank (FB-112)

The tank contains 12,706 gallons of PCB contaminated therminol. Samples taken at 12 inch intervals ranged from 7,960 to 11,490 ppm PCB. This calculates to a weighted average concentration of 9,485 ppm and a loading of 889.4 pounds PCB.

2. ELECTRICAL EQUIPMENT

See attached table.

WASTE THERMINOL STORAGE TANK (FB-112) INVENTORY

07/06/82 Transferred three (3) drums of therminol/water mixture from drip pans.

FB-112 Content:	78.75 inches	= ~~12,246~~ 12,476 gal.
11/19/81 Inventory:		12,329 gal.
Volume Transferred		~~127~~ 147 gal.

PCB Content

858 gal	@ 10,640 ppm	=	67.4 pounds PCB
1,527 gal	@ 10,110 ppm	=	113.9
1,903 gal	@ 11,490 ppm	=	161.4
2,126 gal	@ 7,960 ppm	=	124.9
2,290 gal	@ 8,150 ppm	=	137.7
2,401 gal	@ 9,380 ppm	=	166.2
1,141 gal	@ 9,980 ppm	=	84.0
12,246 gal	@ 9,466 ppm	=	855.5 pounds PCB

78 3/4" = 6.5625"

6.5 12329 gal
6.5625 x
7.0 12526

$$\frac{0.0625}{0.5} = \frac{x}{1177}$$

$x = 147$

6.5625' = 12476 gal

CERTIFICATE OF ANALYSIS

WADSWORTH TESTING LABORATORIES, INC

P.O. Box 208 • 1600 Fourth St. S.E. • Canton, Ohio 44701 • (216) 454-5809

CHEMISTS • METALLURGISTS • ENGINEERS

ESTABLISHED 1938

G + W Resources
Chem Div Ti Group
P.O. Box 160
Ashtabula, Ohio 44004

DATE ~~10/22/82~~

THERMINOL STORAGE

PCB CONTENT

T973	#7 - 80" from Bottom	9,980 ppm	Aro 1248
T967	#1 - 8" "	10,640 ppm	Aro 1243
T972	#6 - 68" "	9,380 ppm	Aro 1248
T970	#4 - 44" "	7,960 ppm	Aro 1248
T968	#2 - 20" "	10,110 ppm	Aro 1248
T969	#3 - 32" "	11,490 ppm	Aro 1248
T971	#5 - 56" "	8,150 ppm	Aro 1248

Sampled 10/4/82

WADSWORTH TESTING LABORATORIES, INC

GIW NATURAL RESOURCES GROUP
CHEMICALS DIVISION - TITANIUM
ASHTABULA, OHIO

TiCl4 UNIT

PCB TRANSFORMER INSPECTION AND MAINTENANCE LOG

TRANSFORMER LOCATION: MCC 2A - West

TRANSFORMER SERIAL NUMBER: 6420

DATE	SERVICE	COMMENTS
April 1981	Inspection by TSI	Leak at bottom valve.
August 6, 1981	Maintenance by TSI	Repaired leak at the shaft of the primary disconnect switch.
Nov. 18, 1981	Inspection - D.Moisio and A.C.Steinbronn	No visible leak, oil level good.
Feb. 26, 1982	Inspection - D.Moisio and A.C.Steinbronn	No visible leaks, oil level good.
May 7 1982	Inspection - D.Moisio and A.C.Steinbronn	No visible leaks, oil level good.
July 15 1982	Inspection by TSI	No leaks, oil level good. (Report dated July 16, 1982)
Oct. 1 1982	Inspection - D.Moisio and A.C.Steinbronn	Leak at disconnect switch.

GEN NATURAL RESOURCES GROUP
CHEMICALS DIVISION - TITANIUM
ASHTABULA, OHIO

TiCl$_4$ UNIT

PCB TRANSFORMER INSPECTION AND MAINTENANCE LOG

TRANSFORMER LOCATION: MCC 2A - East

TRANSFORMER SERIAL NUMBER: 6421

DATE	SERVICE	COMMENTS
April 1981	Inspection by TSI	Oil level low.
August 6, 1981	Maintenance by TSI	1) Repaired bottom weld joint on southeast cooling fin. 2) Oil level is good, not low as reported in April.
Oct. 8, 1981	Maintenance by TSI	1) Replaced primary switch compartment gasket. 2) Replaced cracked bushing on pot head connection. 3) Blanked off parallel feeder at pot head connection.
Nov. 18, 1981	Inspection - D.Moisio and A.C.Steinbronn	No visible leaks, oil level good.
Feb. 26, 1982	Inspection - D.Moisio and A.C.Steinbronn	No visible leaks, oil level good.
May 7 1982	Inspection - D.Moisio and A.C.Steinbronn	No visible leaks, oil level good.
July 15 1982	Insepction by TSI	No leaks, oil level good. (Report dated 7/16/82)
Oct. 1 1982	Inspection - D.Moisio and A.C.Steinbronn	Drip of what appears to be gasketing material at lower seal.

TSI
Transformer Service (Ohio), Inc.
Midwest Division
P. O. Box 2144
Akron, Ohio 44309
Ohio: (216) 376-2412
Outside Ohio: (800) 321-0132

CUST ER: Gulf & Western CITY: Ashtabula STATE: Ohio TEST NO.: 1

NAME PLATE & LOCATION DATA

Make/Rewind	ITE	High Volt	4160	No. Radiators	63	Ground	YES
Serial No	6420	Low Voltage	480Y/277	No. Fans	NONE	Outside	
Inventory/ Property #		Impedance	5.52	Bushings Top/Side	ENCLOSED	Inside	YES
Location	WEST FEEDER	KVA	750	Gas Headspace	YES	Platform	
Environment	DIRTY	Phase/Cycle	3/60	Water Cooled	NO	Pole	
Gallons	4[illegible]A	Hose	ASK	Filter Valves	TOP&BOTTOM	Roof	

FIELD INSPECTION DATA

Date	P.O. No.	TEST Temp°F	TEST Humidity	TRANSFORMER Press	TRANSFORMER Temp°C	Oil Level	Bush.	Paint	Leaks	Quality Factor	Recommended Service
2/75	T-9[illegible]	40°	60%	0	30°	OK		GOOD	TOP CHANGER BOTTOM VALVE	FAIR	LEAK REP
3/[illegible]	T-2[illegible]4	[illegible]°	100%	+1	40°	OK	ENCL.	OK	TOP CHANGER BOTTOM VAVLE	FAIR	LEAK REP
10/7[illegible]	T-[illegible]2	60°	40%	0	48°	OK	ENCL.	OK	TOP CHANGER BOTTOM VALVE	FAIR	LEAK REP
[illegible]	T-[illegible]	75°	80%	0	42°	OK	ENCL.	OK	NONE	GOOD	INSP. 9/
9/[illegible]		60°	100%	+1½	56°	OK	ENCL.	OK	NONE	GOOD	INSP. 9/
4/[illegible]	T-[illegible]31	60°	100%	+.5	50°	OK	ENCL.	GOOD	BOTTOM VALVE 4" x 4"PUDDLE	FAIR	LEAK REPA
7/82	VERBAL	78°	65%	+2	50°	OK	ENCL.	GOOD	NONE	GOOD	INSP. 7/

LIQUID TEST DATA

Date	Color	Sludge	Diel.	Neut. #	I.F.T.	Specific Gravity	Moisture Content	PCB-PPM		Quality Factor	Recommended Service
2/75	VLS	TRACE	50+	.005		1.562				GOOD	TEST 2/7
3/7[illegible]	VLS	CLEAR	38.5	.010		1.562				GOOD	TEST 3/7
10/77	VLS	CLEAR	41.0	.015		1.550				GOOD	TEST 10/
9/78	VLS	TRACE	40.0	.015		1.550				GOOD	TEST 9/7
9/79	S	CLEAR	39.0	.010		1.550				GOOD	TEST 9/8
4/[illegible]	S	CLEAR	31.0	.015		1.550				GOOD	TEST 4/
7/8[illegible]	P/Y	CLEAR	40.0	.01		1.550				GOOD	TEST 7/

A - Askarel/E - Estimated/S - Silicone/IFT - (Interfacial Tension) - Dynes/cm/Neut. # = Acidity/ Neut. No.-mg KOH/g oil Diel.-kilo volts/PCB - Polychlorinated Biphenyl PCB Contamination & Moisture Content in Parts Per Million

TSI
Transformer Service (Ohio), Inc.
Midwest Division
P. O. Box 2144
Akron, Ohio 44309
Ohio: (216) 376-2412
Outside Ohio: (800) 321-0132

CUSTOMER: Gulf & Western CITY: Ashtabula STATE: Ohio TEST NO.: 3

NAME PLATE & LOCATION DATA

Make/Rewind	ITE	High Voltage	4160	No. Radiators	40 FLAT PLATES	Ground	YES
Serial No	12019	Low Voltage	480	No Fans	NONE	Outside	
Inventory/ Property #		Impedance	5.82	Bushings Top/Side	ENCL.	Inside	YES
Location	SOUTH	KVA	1500	Gas Headspace	YES	Platform	
Environment	DIRTY.	Phase/Cycle	3/60	Water Cooled	NO	Pole	
Gallons	400A	Hose	25'	Filter Valves	TOP&BOTTOM	Roof	

FIELD INSPECTION DATA

Date	P.O. No.	TEST Temp° F	TEST Humidity%	TRANSFORMER Press	TRANSFORMER Temp° C	Oil Level	Bush.	Paint	Leaks	Quality Factor	Recomme Servic
2/75	T-9486	40°	60%	+½	40°	LOW		GOOD	TOP PLUG LEAKS	FAIR	FIELDSE
3/76	T-2314	50°	100%	+½	48°	LOW	ENCL	GOOD	SAMPLE TAP	FAIR	FIELDSE
10/77	T-8034	60°	40%	0	51°	OK	ENCL	GOOD	SAMPLE VALVE	FAIR	LEAK RE
9/78	T-260	75°	80%	0	45°	OK	ENCL.	GOOD	SAMPLE VALVE	FAIR	INSP. 9/
9/		80°	100%	+½	52°	OK	ENCL.	OK	SAMPLE TAP	FAIR	INSP.
4/81	T-561	55°	100%	0	45°	LOW	ENCL.	GOOD	SAMPLE TAP	FAIR	LEAK RE FILL TO
7/82	VERBAL	80°	70%	0	50°	LOW	ENCL.	GOOD	NONE	GOOD	FILL TO

LIQUID TEST DATA

Date	Color	Sludge	Diel.	Neut. #	I.F.T.	Specific Gravity	Moisture Content	PCB-PPM		Quality Factor	Recomme Servic
2/75	VLS	CLEAR	48.0	.014		1.560				GOOD	TEST 2
3/76	VLS	CLEAR	50.8	.003		1.560				GOOD	TEST 3
10/77	VLS	CLEAR	37.0	.020		1.552				GOOD	TEST 1
9/78	VLS	CLEAR	40.0	.015		1.550				GOOD	TEST 9
9/79	S	CLEAR	30.0	.010		1.550				GOOD	TEST 9
4/81	S	CLEAR	38.0	.015		1.550				GOOD	TEST 4
7/82	WHEAT	CLEAR		0.01		1.550				GOOD	TEST 7

A - Askarel/E - Estimated/S - Silicone/IFT - (Interfacial Tension) - Dynes/cm/Neut. # = Acidity/ Neut. No.-mg KOH/g oil Diel.-kilo volts/PCB - Polychlorinated Biphenyl
PCB Contamination & Moisture Content in Parts Per Million

ALABAMA
HAZARDOUS WASTE MANIFEST

CWMA

IDENTIFICATION INFORMATION

	NAME	ADDRESS	PHONE	EPA ID CODE
GENERATOR	O+W Natural Resources Group	P.O.Box 160 Ashtabula, Ohio 44004	216-997-5501	
TRANSPORTER NO. 1	Chemical Waste Mgt., Inc.	3106 Snyder-Somer Road Springfield, Ohio 45502	513-969-8348	
TRANSPORTER NO. 2				
DISPOSER	Chemical Waste Management, Inc. Emelle Facility	P. O. Box 55 Emelle, Alabama 35459	205-652-9531	ALT000622466

WASTE INFORMATION

CONTAINER NO.	CONTAINER TYPE	DESCRIPTION/CLASS	TOTAL QUAN.	UNIT	EPA Hazardous Waste ID No.	CWMA WASTE CODE	WEIGHT
6	Drums	PCB contaminated clothes, rags, hoses/ D UN 2315	6	Dr.		COL-A 45619	1610
63	Drums	Empty, PCB contaminated drums/ F UN 2315	63	Dr.		COL-A 45620	3654

EMERGENCY INFORMATION

EMERGENCY NOS: DISPOSER — (205) 652-9531 ; GENERATOR — (216) 997-5501 US COAST GUARD 1-800-424-8802

SPECIAL INSTRUCTIONS:

CERTIFICATION

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, the U.S. Environmental Protection Agency:

Generator — Title — Date

This is to certify acceptance of the hazardous waste shipment described above:

Transporter #1 — Title — Date

Transporter #2 — Title — Date

This is to certify acceptance of the hazardous waste shipment described above for treatment, storage or disposal:

Disposer — Title — Date

DISPOSAL INFORMATION

CWMA WASTE CODE	QUANTITY	UNIT	PROCESS CODE	LOCATION TRENCH	LOCATION LEVEL	LOCATION QUAD	COMMENTS
	1	--	D 1	--			
	62	--	D 1	15			

TRANSPORTER

TSI.
TRANSFORMER SERVICE, (OHIO) INC.
577 Kennedy Road • P O Box 2144 • Akron, Ohio 44309
(216) 784-4632

November 15, 1982

G & W Natural Resources Group
Chemicals Division-Titanium
P.O. Box 160
Ashtabula, OH 44004

Attention: Mr. Harry Soloman Ref: Your PO #T-6387 TSI Job #3317
Subject: After Service Report

Dear Mr. Soloman:

Please find below a listing of services performed at your facility and completed on November 1, 1982.

We trust that all services were performed to your satisfaction.

All work performed by Transformer Service, (Ohio) Inc. carries a one (1) year warranty, with the exception of epoxy, which must be considered a temporary repair.

Should you have any questions concerning the enclosed, please contact me at (216) 784-4632.

SUB NO:	6420	SERVICE PERFORMED:	Drain Down,
MFG:	G.W. SWITCH		Repaired Switch Arm
S/N:	813-100		Replaced Oil
KVA:	750		Cleaned Up Area

SUB NO:	6421	SERVICE PERFORMED:	Drain Down,
MFG:	G.W. SWITCH		Removed Switch Cover
S/N:	813-101		Inspected Internal Parts for Damage
KVA:	750		Cleaned Inside of Transformer
			Regasketed Cover, and Replace
			Replaced Oil (10c)

NOTE: Materials used - 1 GW kit
35 gallons 10c oil.

Thank you for your order.

Robert W. Rafferty
Operations Manager

RWR:dmg

Natural Resources Group
GULF + WESTERN INDUSTRIES, INC

Marquette Company
Jersey Miniere Zinc Company
Chemicals Division
Coal Division
Mining Division
Societe des Blancs de Zinc
de la Mediterranee (France)

PCB File

June 4, 1982

Ms. Sandra S. Gardebring
Director, Enforcement Division
U. S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

Re: Notice of Non-Compliance, November 4, 1981
Compliance Plan Up-Date (Ashtabula, Ohio Facility)

Dear Ms. Gardebring:

In an effort to up-date your office of our Company's compliance schedule in disposing of the PCB-contaminated drums and associated PCB contaminated articles referenced in your November 4, 1981 Notice of Non-Compliance, and as a follow-up to my previous correspondence of November 25, 1981 and January 22, 1982, I include documentation to complete your file.

As noted by copies of the enclosed documents, final disposition of the subject PCB materials occurred on or about April 21, 1982 (reference, waste manifest from Chemical Waste Management, Inc.).

If you need additional information, please contact this writer.

Yours very truly,

Bruce R. Granoff

Bruce R. Granoff
Environmental Counsel

BRG:nf
Enclosures (4)

cc: Craig A. Benedict, Esq.
EPA, Region V

bc: D. A. Towner
R. P. Marshall

I. INTRODUCTION

The Ashtabula area is a location for many industries whose operations pose a potential threat to the environment. Industrial wastewater discharges, and industrial sludge and hazardous waste management have a significant impact on the area's surface and subsurface water resources. Specifically, there is a concentration of industries located in the Fields Brook drainage basin, which is tributary to the Ashtabula River and Lake Erie. This concentration of industrial waste sources has been the focus of many investigations over the years.

Throughout 1980, U.S. EPA, Region V, Eastern District Office (EDO) has conducted investigations within the Ashtabula Area in support of the Clean Water Act (CWA) and the Resource Conservation and Recovery Act (RCRA). A total of 14 industrial and disposal sites were visited and the following types of inspections were conducted:

- RCRA Reconnaissance Inspections
- Compliance Sampling Inspections
- Compliance Sampling Inspections - Toxics
- Compliance Evaluation Inspections

Additionally, EDO observed private contractor sampling of sediments in Fields Brook and other local streams.

The purpose of this report is to summarize the investigative efforts of the Eastern District Office during 1980 as well as those previous investigations. The report attempts to put into perspective the results of a major regulatory effort. A geological assessment in terms of potential for groundwater contamination is also presented. Copies of previous studies, and inspection reports generated by EDO personnel are attached in the Appendix, resulting in a comprehensive resource document. Conclusions and recommendations are made as the next phase of efforts are considered in addressing the Ashtabula problem area.

III. RECOMMENDATIONS

A. Additional Toxics Monitoring

1. CSI-Toxic Surveys or company-conducted monitoring should be completed at the following plants to assess their toxic substance contribution to Fields Brook:

- Detrex Chemical Industries - Muriatic Plant
- RMI - Sodium and Chlorine Plant
- RMI - Extrusion Plant

A toxic survey is not recommended for RMI - Metals Reduction Plant due to the nature of their operation. Also, testing of the Gulf and Western - Titanium Dioxide Plant would be expected to result in findings similar to those for SCM, which showed negligible discharge of organics. Thus, the expenditure of resources for sampling at these two plants is not warranted at this time.

2. A CSI - Toxics survey is recommended for Reserve Environmental Services (RES). Results of this survey would aid permit writers in assessing whether a permit should be granted for direct discharge to Lake Erie.

3. Additional bioassays on all Fields Brook industries and the Brook itself are being planned by Ohio EPA. These efforts should be coordinated with the U.S. EPA to avoid duplication of monitoring activities by the State and Federal governments.

B. Groundwater Monitoring

1. Because of the large number of industries and the large area involved, a systematic approach to defining groundwater pollution is recommended. Initially, on-site soil surveys should be conducted at the following facilities to determine the location of pollutant sources with respect to soil types:

Reserve Environmental Services (RES)
Detrex Chemical Industries, Muriatic Plant
RMI - Extrusion and RMI - Metal Reduction
Gulf and Western Natural Resources Group - $TiCl_4$ Plant
SMC - Glidden Durkee Company
International Minerals and Chemical Corporation (IMC)
General Tire and Rubber Company
Ohio Plastics Corporation

In the second phase of investigation, soil samples should be collected and soil borings made where determined necessary from the initial soil surveys.
Recommendations for the installation of monitoring wells should follow analysis of soil samples and soil borings data.

2. A groundwater study was undertaken by IMC showing groundwater degradation. A copy of this report was not made available to EPA field personnel at the time of inspection. Enforcement Division should request a copy of this groundwater study for review.

3. Because of the nature of the operations at RES, groundwater monitoring wells should be considered for the entire Reserve Environmental Services waste disposal complex.

current mode of disposal, discharge to infiltration ponds, is inadequate and a potential threat to the groundwater.

E. Remedial Actions

1. Contaminated Fields Brook sediments which have accumulated over the years may be the limiting factor concerning fish flesh quality both in the Brook and downstream. To reduce the bioaccumulation of organics in fish and to promote the highest use designation consistent with the potential for stream recovery, removal of contaminated sediments is recommended. However, with dredging of Fields Brook sediments, the following factors should be considered.

a. Analyses of sediments suggest at least the dredging of Fields Brook from Olin Corporation downstream to the East 15th Street bridge.

b. The accessability of the above areas must be considered in selecting the method of sediment removal.

c. If not done properly, dredging of contaminated sediments risks resuspension of organic contaminants.

d. Disposal of dredging spoils requires a suitable landfill site. The problem of proper disposal of dredged materials has confronted EPA and the Army Corps of Engineers in the past. EPA has recommended against Lake Erie disposal of sediments taken from the Ashtabula River and Harbor.

F. Fields Brook Water Quality Variance

Based upon the habitat of Fields Brook and the recent return of fish in the Brook and previous findings of fish in its tributaries, the warmwater habitat use designation should be maintained. In our opinion, only a criteria variance for total dissolved solids is appropriate.

c. Recent improvements in water quality (elimination of high residual chlorine) have resulted in the presence of fish in Fields Brook for the first time in years, with some sport fish noted in the mouth of Fields Brook. Although various species of fish in greater numbers have been attracted to Fields Brook, the quality of fish flesh may be dependent on their sensitivity to contaminated sediments. Notwithstanding improved water quality, exposure of fish to contaminated Fields Brook sediments may result in the continued bioaccumulation of complex organic chemical compounds. Thus, the degree of contamination of bottom sediments in Fields Brook may become the limiting factor in fish flesh quality.

d. The volume of contaminated sediments is roughly estimated to be no more than 10,000 cubic yards.

3. Water Quality Violations

a. In association with point source sampling surveys conducted in 1980, Fields Brook was found to continue to greatly exceed Ohio Water Quality Standards for total dissolved solids (1500 mg/l) due to industrial discharges, particularly SCM and Olin Corporation.

b. Additionally, samples collected upstream and downstream of the Olin, SCM, and General Tire discharges indicate that Warmwater Habitat Standards for copper and zinc were marginally exceeded during the surveys.

B. Impact of Point Sources on Environment

1. Toxics Evaluation of Point Sources

In 1980, compliance sampling toxic studies were conducted at four industries to detect the presence of toxic and carcinogenic/mutagenic substances in the industrial discharges. The industries surveyed included Olin, SCM, General Tire, and Diamond Shamrock. Results of the toxics investigation revealed the following:

a. Numerous organic priority pollutants were found in trace amounts.

b. Bioassay tests for all the plants sampled were toxic to daphnia during a 48 hour exposure.

c. Bioassay tests were determined toxic to fish for only the Diamond Shamrock - Semi Works Plant.

d. The Ames test (indicating the presence of carcinogenic/mutagenic substances) was positive for Olin Corporation, and negative for General Tire, SCM, and Diamond Shamrock.

2. Correlation of Point Source Discharges to Contaminated Fish and Sediments

a. Investigative surveys have established the presence of polychlorinated organics and heavy metals in sediments and fish flesh obtained from the Ashtabula River and Fields Brook. Point source sampling surveys conducted on select Fields Brook industries in 1980 have identified several of the chlorinated organic compounds and priority pollutants identified in these fish and sediment studies. Of those

3. 1978 - PCB's and Other Organic Chemical Residues in Fish from Major Watersheds Near the Great Lakes, 1978[3] (Appendix, Attachment 4).

As a follow-up to the 1976 fish flesh analyses program conducted by the Duluth Environmental Research Laboratory, additional fish were collected from rivers and streams draining into the Great Lakes. This study essentially substantiated the results of the 1976 survey. Once again it was established that fish from the Ashtabula River contained extremely complex mixtures of bioaccumulable organic chemicals. Heavy contamination of PCB's was found as well as the presence of HCB.

4. September 1978 - Ninety-six Hour Toxicity Tests of Ashtabula Harbor (Ohio)[4] (Appendix, Attachment 5)

Heidelberg College, Tiffin, Ohio was contracted by EPA and the U.S. Army Corps of Engineers to conduct toxicity bioassay tests on thirteen Ashtabula Harbor sites and two control sites. The purpose of the investigation was to classify each site samples as non-polluted, moderately polluted, or heavily polluted. The degree of pollution was based on the percent mortality of the three test species used:

Species	Nonpolluted	Moderately Polluted	Heavily Polluted
H. Limbata	< 10	10-50	> 50
D. Magna	< 10	10-50	> 50
P. Promelas	< 10	10-50	> 50

On this basis, overall toxicity was determined to be moderately polluted at 9 sites while nonpolluted at 6 sites. The reader is directed to the Appendix for sampling locations.

5. June 5-6, 1979 - Core Sediment Samples - Ashtabula River, Ohio (Appendix, Attachment 6).

In June of 1979 core samples of the Ashtabula River were taken for EPA by the Environmental Research Group, Inc. In all, eight core samples were collected. Refer to Appendix for location of sites. In some cases, analyses of the entire core was used as one sample while others were divided into two or three equal sections for analyses. Results of the chemical analyses are summarized in Table V-1.

6. September 1979 - A 96-hour Sediment Bioassay of the Ashtabula River-I. Toxicity of Sediments from Different Strata[5] (Appendix, Attachment 7).

In response to a request by the U.S. Army Corps of Engineers, during June of 1979, Aqua Tech Environmental Consultants, Inc., conducted toxicity tests on six Ashtabula River sediment sites; one disposal site; one reference; and one beach site. Each sediment site (except one) was divided into an upper and lower strata for analyses. Similar to investigation 4 discussed previously, the scope of the toxicity tests was to classify each sediment as non-polluted, moderately polluted, or heavily polluted. Criteria for the degree of pollution based on percent mortality of three test species was identical to that outlined previously. Results indicated that four out of the six

Ashtabula River: Of the three stations sampled (stations 2, 3, and 5) in the Ashtabula River's navigational channel, only station 3 had slight contamination with polychlorinated compounds (1,4-dichlorobenzene, an EPA priority pollutant, at 3.7 ppm). Station 3 also had high levels of arsenic and cadmium, while Station 2 had high levels of arsenic alone. Pollutant levels at Station 5, just upstream of the Fifth Street Bridge, had metal concentrations in the moderately polluted range (according to Great Lakes Guidelines) with the exception of chromium, which is in the heavily polluted range. See Table 2 for a summary of these stations' metal concentrations.

8. March - 1980 Radioactivity in Water, Soils, and Sediments in Fields Brook near RMI-Extrusion (Appendix, Attachment 9).

In March of 1980, representatives of the Nuclear Regulatory Commission (NRC) collected the following samples: RMI-Extrusion wastewater discharge; Field's Brook sediment samples upstream and downstream of RMI-Extrusion; sediment directly beneath the RMI-Extrusion wastewater discharge; and soil samples adjacent to the RMI-Extrusion Plant grounds. The investigation was conducted as a result of allegations that RMI-Extrusion was releasing excessive amounts of radioactivity into Fields Brook. Results of the sampling program and radioactive analyses revealed that radioactive concentrations at all locations other than the site directly beneath the RMI-Extrusion wastewater discharge were relatively low. The associated radiation doses were found to be well within NRC limitations. The results did not indicate that a health and/or safety problem existed. NRC recommended that, while posing no immediate hazard, the sediment build-up beneath the wastewater discharge should be dredged and properly disposed.

9. 1980 - Fields Brook Industries Study

As part of the Fields Brook Varience Committee, the Fields Brook industries, through Dr. Andrew White, conducted an intensive survey to investigate the biological effects of Fields Brook on the Ashtabula River. The scope of the study was limited to the consideration of the effects of total dissolved solids and chlorine, in light of NPDES variences or these parameters sought by area industrial dischargers.

At a November 13, 1980 meeting of the Varience Committee, Dr. White presented his preliminary findings. The presentation indicated that Field's Brook has little or no effect on the distribtuion of fish and benthic organisms. Chlorine was non-detectable at the mouth of Fields Brook and was determined not to be an issue for this study. However, the preliminary results will not be acceptable to support a no effect conclusion for toxic substances.

Dr. White delivered a first draft of the report to Ohio EPA and the committee in January 1981. A critical study of the final report would be necessary to verify preliminary conclusions. It is expected that Field's Brook industries will submit a formal request and justification to Ohio EPA for variances early in 1981. According to Ohio EPA, specific numbers have not been discussed.

10. October 1980 Cleveland Area Joint Hazardous Waste Search

In October 1980 a task force including a U.S. EPA contractor, Ohio EPA, and numerous local agencies conducted an intensive five county search in northeastern Ohio for sites improperly storing and handling hazardous wastes. This Cleveland area effort was similar to an investigation of the Chicago-northwest Indiana area conducted earlier in 1980.

Organics

As in previous sediment studies, the presence of organic pollutants in area ediments was established. Core samples contained volatile organic priority pollutants significant levels, specifically trichloroethylene, 1,1,2 trichloroethane, tetrachloroethylene, and 1,1,2,2-tetrachloroethane. The dredge samples also contain volatile organic priority pollutants, but in considerably lower amounts.

Base/neutral analyses revealed high concentrations of hexachlorobutadiene and hexachlorobenzene in core samples. Other base/neutral compounds were identified in lesser or trace amounts in the core and dredge samples taken.

In PCB analyses, one sample from Site 4 was found to contain Arochlor 1248 at 12 mg/g.

12. Fields Brook and Industrial Daphnia Bioassays (Proposed) - Ohio EPA February/March 1981

Ohio EPA is proposing daphnia bioassays to be run on Fields Brook industries effluent and the Brook itself. Bioassays are to be run on 100% sample of industrial effluent and on several points on the Brook in order to provide additional base for permit writing. The industries have indicated that they want to be provided with the bioassay protocol being employed.

B. EDO Field Activities

A summary of field activities conducted by the Eastern District Office appears in Table V-2. Individual industries are discussed below, grouped in the various type of inspection conducted. The Union Carbide facilities were scheduled for a compliance sampling inspection. However, the Linde facilities strike was just settled late in January 1981. The inspection will be conducted at an appropriate time when full production has resumed at all the plants.

1. Compliance Sampling Inspections - Toxics

Four Ashtabula industries were selected as locations for CSI-Toxics surveys. The objectives of the CSI-Toxics surveys were twofold:

- assess compliance of the industrial discharger with the conditions and limitations of the NPDES permit

- evaluate the toxicity of, and the presence of carcinogenic/mutagenic pollutants in the company's effluent through bioassay tests, organic chemical analyses, and the Ames test.

The results of the CSI-Toxic surveys are summarized below:

a. Diamond Shamrock Corporation, Semi-Works, Ashtabula, Ohio (Appendix, Attachment 11).

At this facility, Diamond Shamrock produces new chemicals for market development and evaluation in semi-commercial quantities. Additionally, the plant produces speciality chemicals in commercial quantities for use at other Diamond Shamrock plants.

1) Runoff and seepage from filled in lagoons on Detrex property is a potential source of groundwater pollution as well as contributing several organic chemicals to Fields Brook. The situation has resulted in a Section 311 (of the Clean Water Act) action to begin remedial action. Remedial measures have been begun by Detrex as a result of these enforcement actions.

2) IMC poses a threat to the groundwater by mercury contamination with its on-site sludge disposal lagoon. The company is reportedly instituting a plan to seal off the lagoon bottom and treat contaminated groundwater by pumping it through its wastewater treatment system.

3) RES operates a liquid and solid waste facility through chemical treatment and storage of liquid wastes and the landfilling of industrial solids and sludges. RES hopes to increase capacity of its operation, but must demonstrate the ability to dispose of stored, treated liquid wastes pending the outcome of an NPDES permit application. A pilot spray evaporation system is being evaluated by RES at this time to attempt to resolve this situation by demonstrating zero discharge to surface waters. Atmospheric emissions of volatile organic pollutants is a potential problem.

4) Rockwell International-Brake Division disposes of its paint wash process water through discharge to infiltration ponds. This method of disposal may be inadequate, posing a threat of contamination to the groundwater.

4. Industrial NPDES Permits

Several industrial NPDES permits have expired. Most of the remaining Fields Brook permits will expire in March, 1981. It is likely that Ohio EPA will attempt to issue BPJ permits in the absence of promulgated effluent guidelines.

C. Fields Brook Water Quality Variance

1. The Fields Brook industries are in the process of justifying a request to the Ohio EPA for variance from dissolved solids and residual chlorine water quality standards in Fields Brook. A request for change of water quality standards from warmwater habitat to limited warmwater habitat with a variance for total dissolved solids (TDS) and chlorine is expected. The Fields Brook industries commissioned a study by Dr. Andrew White of Environmental Resource Associates, Inc., to assess the impact of Fields Brook dissolved solids on the biota of the Ashtabula River. With this and other input, including economic data, Ohio EPA will perform cost/benefit and financial reasonability analyses in consideration of the variance request. Action on the variance request is subject to EPA concurrence.

Downgrading water quality standards is not in accordance with EPA guidance of maintaining the highest use designation possible consistent with the habitat and potential for recovery; and of minimizing the number of specific criteria exceptions. In light of this, a request for modification of the warmwater habitat use designation with an exception for TDS may be a more suitable approach.

2. While justification for TDS variance continues on the part of the Fields Brook industries, it should be noted that a greater concern is the discharge of toxic organic and toxic metal pollutants resulting in bioaccumulation of organics in fish and contaminated sediments.

Organic scans of the effluent detected only two organic compounds: 1,1, dichloroethane and 1-(2 Butoxyethoxy)ethanol. However, presence of the first compound is suspect due to a high presence found in the field blank.

Ames Test

The Ames test performed on SCM wastewater effluent proved to be negative.

c. General Tire & Rubber Company - Ashtabula, Ohio (Appendix, Attachment 13).

This General Tire facility manufactures a variety of polymers of vinyl chloride and a vinyl acetate-vinyl chloride copolymer.

NPDES COMPLIANCE

The sample results from this compliance inspection show General Tire to be achieving the limits contained in the NPDES permit. Self-monitoring data, however, indicates General Tire has had problems in the past meeting the limits contained in the permit. The company achieved all permit requirements in only two of twelve months in 197[illegible]. These records indicate that the plant has exceeded the BOD_5, COD, total suspended solids and total dissolved solids limits contained in the permit. During the survey, the loading of dissolved solids was found to be 2,418 lbs/day.

Based upon the data collected during this study a high concentration of zinc in the General Tire discharge increases the zinc level in Fields Brook above Ohio WQS for a Warmwater Habitat. Zinc is not limited in the NPDES permit and the discharger does not monitor this metal.

Toxicity Evaluation - Static Bioassays and Organic Chemical Analyses

The static fish bioassay results showed no toxicity to fish (fathead minnows), but 100% acute mortality to daphnia after a 48 hour exposure.

Eleven volatile and three non-volatile organics were found to be present in the General Tire discharge. These compounds and their reported concentrations are listed below.

Volatile Organics Detected
(3 grab samples)

1. chloroform (74 µg/l)
2. carbon tetrachloride (4.5 µg/l, 5.7 µg/l)
3. trans-1,3-dichloropropene (5.5 µg/l)
4. trichloroethylene (290 µg/l, 28 µg/l 19 µg/l)
5. 1,1,2,2-tetrachloroethane (1.0 µg/l)
6. tetrachloroethylene (3.4 µg/l, 1.7 µg/l)
7. toluene (5.6 µg/l, 0.5 µg/l, 4.0 µg/l)
8. chlorobenzene (4.0 µg/l)
9. 1-methoxy-1-propene (670 µg/l, 21 µg/l, 660 µg/l)
10. 1,1 oxybisethane (5.3 µg/l, 460 µg/l)
11. 1,1,2-trichloro-1,2,2 trifluoroethane (4.9 µg/l, 1.6 µg/l)

possible cause may be the four organic compounds present in the effluent which are known or suspected carcinogens.

2. RCRA Reconnaissance Inspections

In accordance with RCRA, reconnaissance inspections were conducted at these facilities: Detrex Chemicals, Inc., RMI-Extrusion, True-Temper Saybrook Plant, True Temper Sports - Geneva Plant, Rockwell International - Brake Plant, Rockwell International - Plastics Plant, G&W Natural Resources, Reserve Environmental Services, Diamond Shamrock - Semi Works, IMC Inc., and miscellaneous dump sites. Potential adverse impact to the environment varied at each facility and site. The facilities are discussed below in order of greatest problem with the handling of potentially toxic and hazardous materials:

a. Detrex Chemicals Industries, Inc. (Appendix - Attachment 15)

In May of 1980, a RCRA inspection was conducted at Detrex, a manufacturer of the chemicals muriatic acid and n-methylpyrrole. Prior to 1972, Detrex manufactured chlorinated solvents at this site, primarily trichloroethylene and perchloroethylene. The plant used a series of lagoons for disposal of wastes from their plant operation which have since been covered. Through seepage and runoff, chlorinated organics such as trichloroethylene and similar compounds are suspected to be entering Fields Brook.

At the time of inspection, several conditions were revealed which raised concern. These included: drummed chemicals containing still bottoms, organic chemicals, ferric chloride, and unidentified chemicals; a filled in former treatment lagoon area subject to erosion and runoff; an area of unknown chemical storage subject to leaching to Fields Brook; and general site littering with debris and empty drums. Due to the potential for leaching and runoff at the plant site water samples were taken.

Representatives of EEIB became involved with the Detrex situation subsequent to an April 1980 spill event involving n-methypyrrole still bottoms. As a result of an EEIB inspection of Detrex in June 1980, the water samples taken by EDO in May were sent to CRL for analyses for possible Section 311 violations. Results of the chemical analyses were received in July and revealed the presence of a hazardous material trichloroethene. Subsequently, in September 1980 a letter was sent on September 8, 1980 to Detrex requesting that the company eliminate the threat of discharge of hazardous substances from their property into Fields Brook. Specifically, temporary remedial action to identify and dispose of drummed materials containing hazardous wastes, and the control of erosion and runoff in the filled lagoon area was requested.

Concurrently with EEIB involvement, Detrex had been working on cleaning up the site as a result of OEPA and the initial U.S. EPA EDO RCRA investigation. On September 11, 1980, Detrex formally responded to the EEIB letter, in order to update EPA on the progress of clean-up action on the site. With regard to site cleanup and drum identification, Detrex has taken the following actions:

1. All scrap has been removed from the site and general site housekeeping has been improved.

2. Most drummed materials are now stored inside. Those remaining outdoors are located on a curbed, concrete pad.

3. Contents of 90% of the drums have been identified.

d. Rockwell International Corporation - Highway Brake Division - Ashtabula, OH (Appendix, Attachment 18)

The Rockwell-Brake plant manufactures drum-type brakes for trucks and trailers. Plant machining and finishing processes generate the following potentially toxic and hazardous materials: waste oils, asbestos dust, and paint wash waters. Waste oils are stored in drums and hauled away by private contractor. Asbestos, utilized in drum brake linings, is captured by dust collectors and placed in 55 gallon containers. The containers of asbestos, a toxic material, are hauled by Ashtabula County Waste to Doherty Landfill. Paint wash waters are sent to four infiltration ponds with no discharge. It was recommended that the company investigate treatment of its process waters to eliminate the use of infiltration ponds. Additionally, the RCRA inspection brought out the need for the company to implement its SPCC plan which has been delayed for various reasons.

e. RMI Company - Extrusion Plant, Ashtabula, OH (Appendix, Attachment 19)

RMI - Extrusion fabricates ferrous and non-ferrous billets into desired shapes. Uranium is included as one of the non-ferrous metals processed. As a result, solid wastes, sludges, and residues are generated at the plant which are contaminated to a degree with radioactive materials. Radioactive contaminated materials are put in drums and stored on site until they are hauled away for final disposal. At the date of inspection, the drums were being trucked to an NRC approved site in South Carolina. Handling and storage of the drums on-site appeared adequate. RMI's handling of their wastes is reflected in the NRC sampling survey discussed previously in this summary report whereby the survey showed no hazardous levels of radioactivity in the environment.

f. True Temper Sports, Inc. - Geneva, OH (Appendix, Attachment 20)

True Temper Sports manufactures golf club shafts, tennis racket frames and antennas. Within the plant manufacturing process and wastewater treatment potentially hazardous materials are generated. These include waste oils, spent strip solutions, and chromium hydroxide sludge. Waste oils chemicals and solutions are hauled away be private contractor. Chromium hydroxide sludge is hauled to a lagoon on plant property for disposal. Three other lagoons on site have been abandoned. With all the lagoons, there is a potential for groundwater pollution. Two lagoons, including the chrome lagoon in use now, have a 2 foot thick clay lining which would minimize this potential.

g. Rockwell International Corporation - Plastics Division, Ashtabula, OH (Appendix, Attachment 21)

The Rockwell-plastics plant manufactures fiberglass reinforced plastic truck hoods and other truck component parts through injection molding. This manufacturing process results in the following solid wastes and hazardous materials: miscellaneous trash and solid waste, oily wastewater, spent urethane bonding material, paint spray waste sludge, and drummed chemicals. At the date of inspection, the company was undertaking a waste management study to determine the manner of handling its toxic and hazardous wastes. Recycle and reclamation potential of the wastes are being evaluated as well as previously used private haulers and their disposal sites. Also, the RCRA report recommended that Rockwell update, revise, and implement its SPCC Plan to reflect current plant operations. As a result of this, Rockwell has prepared an amended and recertified SPCC Plan for its Ashtabula Plastics Plant.

Dallas Ice - Ashtabula, Ohio

Depascale Contracting - Ashtabula, Ohio

Erieway Pollution Control, Inc. - Bedford, Ohio

Geneva Disposal - Ashtabula, Ohio

Homan Oil Service - Cleveland, Ohio

Niciu Trucking - Ashtabula, Ohio

Poplar Oil Co. - Jefferson, Ohio

Off-Site Disposal Facilities

Chem-Nuclear Systems - Barnwell, SC

Doherty Landfill - Geneva, Ohio

Joel Shellhammer - Ashtabula, Ohio

Northway Environmental - Ashtabula, Ohio

Reserve Environmental Services - Ashtabula, Ohio

Wakeman Oil - Coraopolis, PA

3. Compliance Evaluation Inspections (CEI's)

CEI's were conducted at two facilities: RMI-Metal Reduction and G&W Natural Resources Group. A CEI is a non-sampling inspection which evaluates compliance with NPDES permit conditions with respect to effluent limitations and sampling/analysis methods and procedures. A brief summary of the two inspections is presented below:

a. RMI Company - Metals Reduction Plant - Ashtabula, OH (Appendix - Attachment 26)

RMI - Metals produces titanium sponge through the combination of sodium and titanium tetrachloride. Process wastewater is chemically treated in a series of lagoons. A review of self monitoring data showed compliance with NPDES permit limitations with minor non conformance in sample handling and analyses, and flow monitoring. Sludges generated at the treatment plant are landfilled or hauled away by Reserve Environmental Services for landfill.

b. G&W Natural Resources Group - Ashtabula, OH (Appendix, Attachment 27)

G&W Natural Resources Group is a producer of titanium tetrachloride and titanium dioxide. Wastewater is provided for each process in separate lagoon systems. Wastewater sludges are stockpiled on plant site which poses a threat of contaminated runoff into Fields Brook.

Table I-1

Core Sediment Samples
Ashtabula River, Ohio
June 1979
Analytical Results
ppm Dry Weight

1) Heavy metals, phenols, oil and grease:

	Hg	Pb	Ni	Cd	Zn	Cu	Ti	Sn	Cr	As	Phenols	O&G
Range	.23-3.4	24-96	39-140	< .5-10	110-660	25-88	3800-35000	27-220	37-2400	8-37	<.4-15	.037-.20

2) Organics:

	Hexachloro-benzene	Hexachloro-butadiene	DDT and metabolites	Dieldrin	Polychlorinated styrene
Range	.01-29	.02-46	N.D.*	N.D.*	N.D.*

*Detection limit .1 ppm

3) Base Neutral Scan:

	Hexachloro-butadiene	Phenanthrene	Dibutyl phthalate	Fluoranthene	Pyrene	Bisethyl hexylphthalate
Range	N.D. // - 8	N.D. - 10	1-10	3-5	2-6	6-15

	Benzo (k) fluoranthene	Benzo (a) pyrene	Chrysene	Hexachloro-benzene	Napthalene	1,4 Dichloro-benzene
Range	N.D. - 3	N.D. - 1	2-6	N.D. - 20	N.D. - 1	N.D. -

	1,2,4 Trichloro-benzene	Diethyl phthalate
Range	N.D. - 8	N.D. - 2

// Detection limit for base neutral - .5 ppm

TSI
Transformer Service (Ohio), Inc.
Buchtel-Market Bldg.
680 East Market Street
Akron, Ohio 44304
Telephone: (216) 376-2412

CUSTOMER Gulf & Western -- Ashtabula, Ohio DATE September 18, 1979

TRANSFORMER TEST REPORT CROSS REFERENCE INDEX

TSI TEST NO.	CUSTOMER INV. NO.	SUB LOCATION	TSI TEST NO.	CUSTOMER INV. NO.	SUB LOCATION
1 - 2		West Feeder			
3		South			

Oil Testing Service

CUSTOMER: G & W Natural Resources Group CITY: Ashtabula STATE: Ohio TEST NO.: 3

NAME PLATE & LOCATION DATA

Make/Rewind	ITE	High Voltage	4160	No. Radiators	40 FLAT PLATES	Ground	YES
Serial No.	12019	Low Voltage	480	No. Fans	NONE	Outside	NO
Inventory Number		Phase/Cycle	3/60	Bushings Top/Side	ENCLOSED	Inside	YES
Impedance	5.82%	Gas Headspace	YES	Location	SOUTH	Platform	NO
KVA	1500	Water Cooled	NO	Environment	DIRTY	Pole	NO
FILTER Valves	TOP & BOTTOM	Hose	25'	Gal./Type	400A.	Roof	NO

FIELD INSPECTION DATA

Date	P.O. No.	TEST Temp.	TEST Humidity	TRANSFORMER Press	TRANSFORMER Temp.	Oil Level	Bush.	Paint	Leaks	Quality Factor	Recommend Service
2/75	T-9486	40°	60%	+½	40°	LOW		GOOD	TOP PLUG WEEPS	FAIR	FIELDSERV
3/76	T-2314	50°	100%	+.5	48°	LOW	ENCL.	GOOD	SAMPLE TAP WEEP	FAIR	FIELDSERV
10/77	T-8034	60o	40%	0	51°	OK	ENCL.	GOOD	SAMPLE VALVE	FAIR	LEAK REPA
9/78	T-260	75°	80%	0	45°	OK	ENCL.	GOOD	SAMPLE TAP WEEP	FAIR	INSP. 9/7
9/79	T-4387	60°	100%	+½	52°	OK	ENCL.	OK	SAMPLE TAP WEEP	FAIR	INSP. 9/8

LIQUID TEST DATA

Date	Color	Sludge	I.F.T.	S.R.	Neut#	Diel.	Specific Gravity	SSU		Quality Factor	Recommende Service
2/75	VLS	CLEAR		150.0	.014	48.0	1.560	50.2		GOOD	TEST 2/76
3/76	VLS	CLEAR		208.0	.003	35.8	1.560	50.8		GOOD	TEST 3/77
10/77	VLS	CLEAR			.020	37.0	1.552			GOOD	TEST 10/7
9/78	VLS	CLEAR			.015	40.0	1.550			GOOD	TEST 9/79
9/79	S	CLEAR			.010	30.0	1.550			GOOD	TEST 9/80

A-askarel E-estimated I.F.T.-dynes/cm S.R.-specific resistivity 10^9 ohm-cm askarel only
Neut. No.-mg KOH/g oil Diel.-kilo volts SSU-viscosity @ 100°f

TRANSFORMER SERVICE, INC.

Oil Testing Service

CUSTOMER: G & W Natrual Resources Group CITY: Ashtabula STATE: Ohio TEST NO.: ?

NAME PLATE & LOCATION DATA

Make/Rewind	ITE	High Voltage	4160	No. Radiators	63	Ground	YES
Serial No	6421	Low Voltage	480Y/277	No. Fans	NONE	Outside	NO
Inventory Number		Phase/Cycle	3/60	Bushings Top/Side	ENCLOSED	Inside	YES
Impedance	5.52%	Gas Headspace	YES	Location	WEST FEEDER	Platform	NO
KVA	750	Water Cooled	NO	Environment	DIRTY	Pole	NO
FILTER Valves	TOP & BOTTOM	Hose	25'	Gal./Type	420A	Roof	NO

FIELD INSPECTION DATA

Date	P.O. No.	TEST Temp.	TEST Humidity	TRANSFORMER Press	TRANSFORMER Temp.	Oil Level	Bush.	Paint	Leaks	Quality Factor	Recommend Service
2/75	T-9486	40°	60%	0	30°	OK		GOOD	NONE	GOOD	INSP. 2/
3/76	T-2314	50°	100%	0	40°	LOW	ENCL.	GOOD	RADIATOR	FAIR	FIELDSER
10/77	T-6034	60°	40%	-3/4	42o	OK	ENCL.	GOOD	NONE	GOOD	INSP. 10
9/78	T-260	75°	80%	-¼	40°	LOW	ENCL.	GOOD	NONE	FAIR	INSP. 9/
9/79	T-4387	60°	100%	+1	65°	OK	ENCL.	OK	NONE	GOOD	I 9/

LIQUID TEST DATA

Date	Color	Sludge	I.F.T.	S.R.	Neut #	Diel.	Specific Gravity	SSU		Quality Factor	Recommend Service
2/75	VLS	CLEAR		102.0	.015	50+	1.565	52.7		GOOD	TEST 2/7
3/76	VLS	CLEAR		238.0	.010	44.5	1.565	52.0		GOOD	TEST 3/7
10/77	VLS	CLEAR			.015	45.0	1.552			GOOD	TEST 10
9/78	VLS	CLEAR			.015	40.0	1.550			GOOD	TEST 9/7
9/79	S	CLEAR			.015	33.0	1.570			GOOD	TEST 9/8

A-askarel E-estimated I.F.T.-dynes/cm S.R.-specific resistivity 10^9 ohm-cm askarel only
Neut. No.-mg KOH/g oil Diel.-kilo volts SSU-viscosity @ 100°f

TRANSFORMER SERVICE, INC.

Oil Testing Service

CUSTOMER: G & W Natural Resources Group CITY: Ashtabula STATE: Ohio TEST NO.: 1

NAME PLATE & LOCATION DATA

Make/Rewind	ITE	High Voltage	4160	No. Radiators	63	Ground	YES
Serial No.	6420	Low Voltage	480Y/277	No. Fans	NONE	Outside	NO
Inventory Number		Phase/Cycle	3/60	Bushings Top/Side	ENCLOSED	Inside	YES
Impedance	5.52%	Gas Headspace	YES	Location	WEST FEEDER	Platform	NO
KVA	750	Water Cooled	NO	Environment	DIRTY	Pole	NO
FILTER Valves	TOP & BOTTOM	Hose	25'	Gal./Type	420A	Roof	NO

FIELD INSPECTION DATA

Date	P.O. No	TEST Temp.	TEST Humidity	TRANSFORMER Press	TRANSFORMER Temp.	Oil Level	Bush.	Paint	Leaks	Quality Factor	Recommend Service
2/75	T-[illegible]486	40°	60%	0	30°	OK		GOOD	TAP CHANGER & BOTTOM VALVE	FAIR	LEAK REP/
3/76	T-2314	50°	100%	+1	40°	OK	ENCL.	GOOD	TAP CHANGER & BOTTOM VALVE	FAIR	LEAK REP/
10/77	T-8034	60°	40%	0	48o	OK	ENCL.	GOOD	TAP CHANGER BOTTOM VALVE	FAIR	LEAK REP/
9/78	T-260	75°	80%	0	42°	OK	ENCL.	GOOD	NONE	GOOD	INSP. 9/7
9/79	T-4387	60°	100%	+1¼	56°	OK	ENCL.	GOOD	NONE	GOOD	INSP. 9/8

LIQUID TEST DATA

Date	Color	Sludge	I.F.T.	S.R.	Neut #	Diel.	Specific Gravity	SSU		Quality Factor	Recommend Service
2/75	VLS	TRACE		186.0	.005	50+	1.562	54.9		GOOD	TEST 2/7
3/76	VLS	CLEAR		185.0	.010	38.5	1.562	54.2		GOOD	TEST 3/7
10/77	VLS	CLEAR			.015	41.0	1.550			GOOD	TEST 10/
9/78	VLS	TRACE			.015	40.0	1.550			GOOD	TEST 9/7
9/79	[illegible]	CLEAR			.010	39.0	1.550			GOOD	TEST 9/8

A-askarel E-estimated I.F.T.-dynes/cm S.R.-specific resistivity 10^9 ohm-cm askarel only
Neut. No.-mg KOH/g oil Diel.-kilo volts SSU-viscosity @ 100°f

GULF & WESTERN NATURAL RESOURCES
STATE & MIDDLE ROAD
ASHTABULA, OHIO 44004

TRANSFORMER TEST REPORT - 1979

TSI
Transformer Service (Ohio), Inc.
Buchtel-Market Bldg.
680 East Market Street
Akron, Ohio 44304
Telephone: (216) 376-2412

September 18, 1979

Gulf & Western Natural Resources
State & Middle Road
Ashtabula, Ohio 44004

Attention: Mr. Bill Wasson
Subject: Transformer Test Report

Gentlemen:

With reference to the enclosed test report, we do not recommend any service to your transformers at this time. We do, however, recommend having these units tested again in about twelve months.

Thank you very much for the opportunity to test these units.

Very truly yours,

TRANSFORMER SERVICE, INC.

R. C. Dougherty

RCD/tlw
Enclosure

Analyses - cont.

Waste Therminol Storage Tank:

January 8, 1981 - Tank re-sampled to check high results of October 14, 1980. Entire set of samples were submitted to Envirolab on January 8, 1981, and aliquot portions of some samples were submitted on January 15, 1981.

January 8, 1981	January 15, 1981	
[illegible]900 ppm	12,000 ppm	- 12 inches from bottom
8,6[illegible]0 ppm		- 18 inches from bottom
8,4[illegible]0 ppm	10,000 ppm	- 24 inches from bottom
7,[illegible] ppm		- 30 inches from bottom
7,90[illegible] ppm	12,000 ppm	- 36 inches from bottom
8,6[illegible] ppm		- 42 inches from bottom
8,4[illegible] ppm	12,000 ppm	- 48 inches from bottom
11,[illegible] ppm		- 54 inches from bottom
7,[illegible]0 ppm	8,400 ppm	- 60 inches from bottom
63,000 ppm		- 66 inches from bottom

April 8, 1981 - After fourth draining of system

12,000 ppm	- 8 inches from bottom	(Wadsworth)
11,300 ppm	- 14 inches from bottom	
8,000 ppm	- 20 inches from bottom	
13,000 ppm	- 26 inches from bottom	
10,700 ppm	- 32 inches from bottom	
12,900 ppm	- 38 inches from bottom	
10,000 ppm	- 42 inches from bottom	
12,500 ppm	- 48 inches from bottom	
9,500 ppm	- 54 inches from bottom	
11,500 ppm	- 60 inches from bottom	
10,500 ppm	- 66 inches from bottom	

A. C. STEINBRONN
[illegible]4 Unit Superintendent
May 20, 1981 - kr

Analyses - cont.

Piping Loop:

May 28, 1980	1,000 ppm	
July 9, 1980	900 ppm	
August 7, 1980	640 ppm	
September 2, 1980	390 ppm	
Drained system on September 24, 1980		
October 1, 1980	110 ppm	
October 30, 1980	210 ppm	
November 26, 1980	110 ppm	
December 23, 1980	55 ppm	
January 20, 1981	140 ppm	
March 9, 1981	110 ppm	- Envirolab
	114 ppm	- Energy Resources
	170 ppm	- Jones and Henry
	82 ppm	- Wadsworth

Drained system
May 17, 1981

Waste Therminol Storage Tank:

January 24, 1980 - After first draining of system

120 ppm	- bottom of tank
1,300 ppm	- middle of tank
1,800 ppm	- top of tank

May 27, 1980 - After second draining of system

5,900 ppm	- 1 ft. from bottom
5,600 ppm	- 2 ft. from bottom
6,400 ppm	- 3 ft. from bottom
6,700 ppm	- 4 ft. from bottom

October 14, 1980 - After third draining of system

19,000 ppm	- 6 inches from bottom
25,000 ppm	- 12 inches from bottom
22,000 ppm	- 18 inches from bottom
14,000 ppm	- 24 inches from bottom
17,000 ppm	- 30 inches from bottom
12,000 ppm	- 36 inches from bottom
18,000 ppm	- 42 inches from bottom
9,900 ppm	- 48 inches from bottom
9,100 ppm	- 54 inches from bottom
12,000 ppm	- 60 inches from bottom
21,000 ppm	- 66 inches from bottom

Analyses - cont.

Waste Therminol Storage Tank:

January 8, 1981 - Tank re-sampled to check high results of October 14, 1980. Entire set of samples were submitted to Envirolab on January 8, 1981, and aliquot portions of some samples were submitted on January 15, 1981.

January 8, 1981	January 15, 1981	
7,300 ppm	12,000 ppm	- 12 inches from bottom
8,600 ppm		- 18 inches from bottom
8,400 ppm	10,000 ppm	- 24 inches from bottom
7,[illegible] ppm		- 30 inches from bottom
7,900 ppm	12,000 ppm	- 36 inches from bottom
8,600 ppm		- 42 inches from bottom
8,400 ppm	12,000 ppm	- 48 inches from bottom
11,000 ppm		- 54 inches from bottom
7,800 ppm	8,400 ppm	- 60 inches from bottom
63,000 ppm		- 66 inches from bottom

April 8, 1981 - After fourth draining of system (Wadsworth)

12,000 ppm	- 8 inches from bottom
11,300 ppm	- 14 inches from bottom
8,300 ppm	- 20 inches from bottom
13,000 ppm	- 26 inches from bottom
10,700 ppm	- 32 inches from bottom
12,900 ppm	- 38 inches from bottom
10,000 ppm	- 42 inches from bottom
12,500 ppm	- 48 inches from bottom
9,500 ppm	- 54 inches from bottom
11,500 ppm	- 60 inches from bottom
10,500 ppm	- 66 inches from bottom

A. C. STEINBRONN
[illegible] Unit Superintendent
May 20, 1981 - kr

CHEMICALS DIVISION - TITANIUM
ASHTABULA, OHIO

ATTACHMENT 2

STATUS AND ANALYSES OF PCB CONTAMINATED THERMINOL SYSTEM

Expenditures to Date (5/20/81)

Tank and Dike Installation	$29,676
Therminol Purchases:	
October 8, 1979	7,617
May 13, 1980	8,436
September 24, 1980	11,281
March 10, 1981	11,167
	$68,177

Current Status

Piping Loop and Expansion Tank - 2,540 gal. @ 50 ppm (est.)

Waste Therminol Storage Tank - 12,428 gal. @ 10,000 (?) ppm

Analyses

Piping Loop:

May 4, 1978	17,000 ppm	
June 2, 1978	4,600 ppm	
August 3, 1978	4,500 ppm	
September 20, 1979	9,300 ppm	

Drained system on October 8, 1979

October 25, 1979	N.D.	
December 6, 1979	2.5 ppm	
December 25, 1979	1,200 ppm	
January 24, 1980	78 ppm	
February 16, 1980	3,200 ppm	
March 20, 1980	1,700 ppm	- Envirolab
	4,261 ppm	- Energy Resources
April 16, 1980	1,300/1,400	- Envirolab
	2,090/1,990	- Energy Resources

Drained system on May 13, 1980

cc: SPCC Plan

** UPDATED MARCH 4, 1981

ELECTRICAL EQUIPMENT CONTAINING PCBs

JANUARY 24, 1980

TYPE	LOCATION	SIZE	IDENTIFICATION	MANUFACTURER	PCB CONTENT	REMARKS
TRANSFORMER	$TiCl_4$ - MCC 5 & 6	1500 KVA	SERIAL NO.12019	ITE	5300 LBS.	
TRANSFORMER	$TiCl_4$ - MCC 2A	750 KVA	SERIAL NO. 6420	ITE	5500 LBS.	
TRANSFORMER	$TiCl_4$ - MCC 2A	750 KVA	SERIAL NO. 6421	ITE	5500 LBS.	
CAPACITOR	TiO_2-SWITCH RACK 1	25 KVAR		WESTINGHOUSE	25.4 Lbs.	
	" - " 1	25 "		"	25.4 "	
	" - " 2	25 "		"	25.4 "	
	" - " 2	25 "		"	25.4 "	
	" - " 2A	25 "		"	25.4 "	
	" - " 2A	25 "		"	25.4 "	
	" - " 3	25 "		"	25.4 "	
	" - " 3	25 "		"	25.4 "	
	" - " 5	25 "		"	25.4 "	
	" - " 5	25 "		"	25.4 "	
	" - " 6	50 "		"	50.8 " est.	
	" - " 7	25 "		"	25.4 "	
	" - " 7	25 "		"	25.4 "	
	" - " 8	50 "		"	50.8 " est.	
	" - " 9	25 "		"	25.4 "	
	" - " 9	25 "		"	25.4 "	
	" - " 9A	20 "		GENERAL ELECT.	** 20.0 " est.	
	" - " 9A	25 "		" "	** 25.4 " est.	
	" - " 11	25 "		WESTINGHOUSE	25.4 "	**DISPOSED OF ON 6/7/80
	" - " 11	25 "		"	25.4 "	**DISPOSED OF ON 6/7/80

VERSAR Inc.

ANALYTICAL CHEMISTRY DIVISION

CHAIN OF CUSTODY RECORD

SAMPLE # 5-GW-03

LABORATORY # 4163

RECEIVED 6/8/81 (date) 9:30 (hours) (minutes)

RECEIVED BY Beverly Hutchins (print) (signature)

PROJECT-BATCH # 717.18-5 SITE EPA region IV

PARAMETER PCB MATRIX oil

Operation	Day/Time	Signature
~~Relinquished~~		
Relinquished to lab for sample prep	7-24-81 9:00	E Zebeville
returned to refr.	7-24-81 12:00	E Zebeville

VERSAR Inc.

ANALYTICAL CHEMISTRY DIVISION

CHAIN OF CUSTODY RECORD

SAMPLE # 5-GW-02

LABORATORY # 4162

RECEIVED 6/8/81 (date) 9 : 30 (hours) (minutes)

RECEIVED BY Beverly Hutchins (print) BH (signature)

PROJECT-BATCH # 717.18-5 SITE EPA Region IV

PARAMETER PCB MATRIX oil

Operation	Day/Time	Signature
to lab for sample prep	7-24-81 9:00	E Goluilla
returned to refr.	7-24-81 12:00	E Goluilla

VERSAR INC.

ANALYTICAL CHEMISTRY DIVISION

CHAIN OF CUSTODY RECORD

SAMPLE # 15-GW-01

LABORATORY # 4116.1

RECEIVED 7/24/81 (date) 9:30 (hours) (minutes)

RECEIVED BY Ronald Hutchins (print) (signature)

PROJECT-BATCH # 717.18-15 SIMS EPA region IV

PARAMETER PCB MATRIX oil

Operation	Day/Time	Signature
Label Log, Stamp, Prep	7-24-81 9:00	E Labeille
Returned to Sifr.	7-24-81 12:00	E Labeille

LIST OF ATTACHMENTS

GULF AND WESTERN NATURAL RESOURCES GROUP
2426 MIDDLE ROAD
ASHTABULA, OHIO 44004

JUNE 5, 1981

ATTACHMENTS:

A. PCB Analytical Report
B. Photographs
C. Notice of Inspection
D. Notice of Confidentiality
E. Receipt for Samples and Documents
F. Chain of Custody Record

ATTACHMENTS OBTAINED FROM FACILITY:

1. Electrical Equipment Containing PCBs (1 page)
2. Status and Analyses of PCB Therminol System (3 pages)
3. TSI Transformer Data Sheets (8 pages)
4. Hazardous Waste Manifest (1 page)

[illegible] Inc
6621 ELECTRONIC DRIVE
SPRINGFIELD, VIRGINIA 22151

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
777.17	PCB Compliance Inspections

SAMPLERS: *(Signature)* Robert Murphy

STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	REMARKS
SW-01	6/8	10:45		✓	Trophy Theater	1	Heat transfer fluid
SW-02	6/8	10:30		✓	Heat transfer shop path	1	Fluid sample from tip
SW-03	6/8	10:30		✓	" " "	1	" " "

ATTACHMENT F

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Robert Murphy	6/8/81 10:05	S. [illegible]			
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator [illegible] Files

9-0620

EPA United States Environmental Protection Agency

RECEIPT FOR SAMPLES AND DOCUMENTS

Firm Address: 2426 Middle Road, Astabula Ohio 44004

Inspector Name: James R Foster

Inspector Address: 6621 Electronic Dr, Springfield VA 22151

Name of Individual: Douglas Tanner

Title: Manager

Date Collected	Duplicate Samples Requested and Received	Sample Numbers
6/5/81	(X) Yes ( ) No	GW-01-03

The documents and samples of chemical substances and/or mixtures described below were collected in connection with the administration and enforcement of the Toxic Substances Control Act.

Receipt for the ~~document~~(s) and/or ~~sample~~(s) described is hereby acknowledged:

Samples

GW-01 Fluid from heat transfer system

GW 02 Fluid from top of 25000 gal tank

GW 03 " " Bottom " " " "

Photos

1 heat transfer system

2 storage tank by heat system

3 PCB Solids drums in storage

4 25000 gal tank

5 PCB solid drum with pump

Documents

(1) Status of PCB contaminated system

(2) Electric equipment containing PCB

3 Hazardous waste manifest

4 TSI transformer servicing

Signature of Inspector	Signature of ~~Owner~~ Operator, or Agent
James R Foster	[illegible]
Title: Compliance Auditor	Title: Plant Manager

United States Environmental Protection Agency

TSCA Inspection Confidentiality Notice

Inspector Name: James R Foster

Inspector Address: 6621 Electronic Dr
Springfield VA 22151

Facility Address: 2426 Middle Road
Ashtabula, Ohio

Chief Executive Officer of Firm:

Title:

Name of Individual to Whom Notice Given:

Title:

It is possible that EPA will receive public requests for release of the information obtained during inspection of the facility above. Such requests will be handled by EPA in accordance with provisions of the Freedom of Information Act (FOIA), 5 U.S.C. 552; EPA regulations issued thereunder, 40 CFR Part 2; and the Toxic Substances Control Act, Section 14. EPA is required to make inspection data available in response to FOIA requests unless the Administrator of the Agency determines that the data contains information entitled to confidential treatment.

Any or all the information collected by EPA during the inspection may be claimed confidential if it relates to trade secrets or commercial or financial matters that you consider to be confidential. If you make claims of confidentiality, EPA will disclose the information only to the extent, and by means of the procedures, set forth in the regulations (cited above) governing EPA's treatment of confidential information. Among other things, the regulations require that EPA notify you in advance of publicly disclosing any information you have claimed and certified confidential.

To Claim Confidential Information

To claim information confidential, you must certify that each claimed item meets all of the following criteria:

1. Your company has taken measures to protect the confidentiality of the information, and it intends to continue to take such measures.

2. The information is not, and has not been, reasonably obtainable without your company's consent by other persons (other than governmental bodies) by use of legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding).

3. The information is not publicly available elsewhere.

4. Disclosure of the information would cause substantial harm to your company's competitive position.

At the completion of the inspection, you will be given a receipt for all documents, samples, and other materials collected. At that time, you may make claims that some or all of the information is confidential and meets the four criteria listed above.

If you are not authorized by your company to make confidentiality claims, this notice will be sent by certified mail, along with the receipt for documents, samples, and other materials to the Chief Executive Officer of your firm within two days of this date. The Chief Executive Officer must return a statement specifying any information which should receive confidential treatment.

The statement from the Chief Executive Officer should be addressed to:

and mailed by registered, return-receipt-requested mail within seven (7) calendar days of receipt of this Notice.

Failure by your firm to submit a written request that information be treated as confidential, either at the completion of the inspection or by the Chief Executive Officer within the seven-day period, will be treated by EPA as a waiver by your company of any claims for confidentiality regarding the inspection data.

To be completed by facility official receiving this notice

I have received and read this Notice.

Name: DA Towner

Title: Dist Mgr.

Signature: D.A. Towner

Date: 6/5/81

If there is no one on the premises of the facility who is authorized to make business confidentiality claims for the firm, a copy of this Notice and other inspection materials will be sent to the company's chief executive officer. If there is another company official who should also receive this information, please designate below.

Name:

Title:

Address:

EPA Environmental Protection Agency

NOTICE OF INSPECTION

Inspector Name and Address
James R. Foster
6021 Electronic Dr
Springfield VA 22151

Firm Address
Final Resources Group
2426 Middle Road
Ashtabula, Ohio 44004

Date: 6/5/81

Time: 0845

Inspector's Signature: James R. Foster

Name and Title of Recipient: DA Towner Plt Mgr

Title: Compliance Inspector

Signature of ~~Recipient~~: DAtowner

REASON FOR INSPECTION

Under the authority of Section 11 of the Toxic Substances Control Act

☑ For the purpose of inspecting (including taking samples, photographs, statements, and other inspection activities) an establishment, facility, or other premises in which chemical substances or mixtures or articles containing same are manufactured, processed or stored, or held before or after their distribution in commerce (including records, files, papers, processes, controls, and facilities) and any conveyance being used to transport chemical substances, mixtures, or articles containing same in connection with their distribution in commerce (including records, files, papers, processes, controls and facilities) bearing on whether the requirements of the Act applicable to the chemical substances, mixtures, or articles within or associated with such premises or conveyance have been compiled with.

☐ In addition, this inspection extends to (circle appropriate letters):

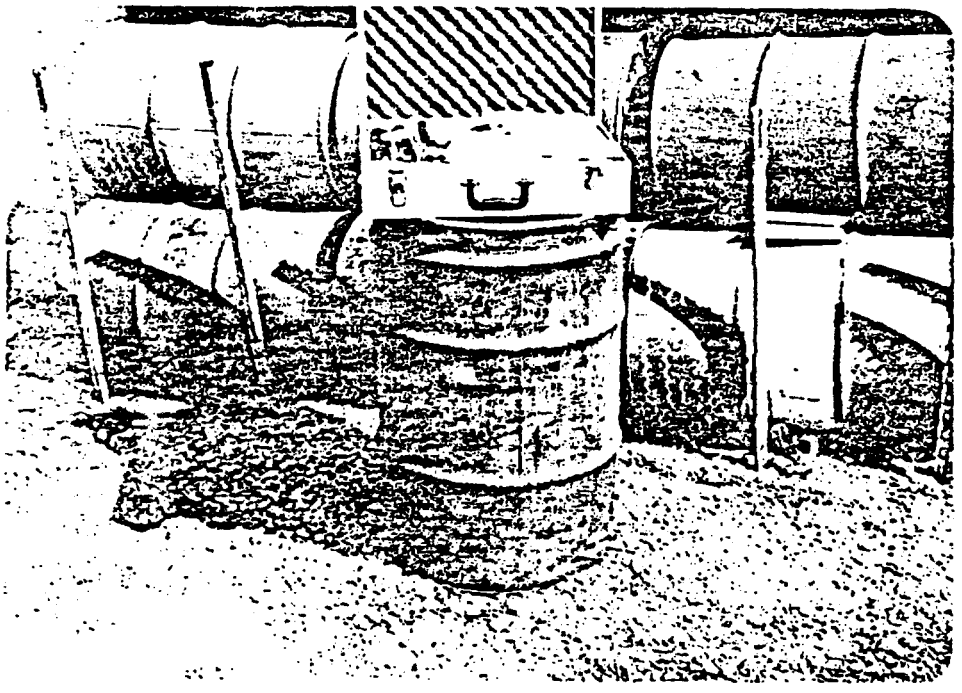
(A) Financial data
(B) Sales data
(C) Pricing data
(D) Personnel data
(E) Reserach data

The nature and extent of inspection of such data specified in A through E above, as follows:

ATTACHMENT B
(continued)

PHOTOGRAPHS FROM G & W NATURAL RESOURCES

5.



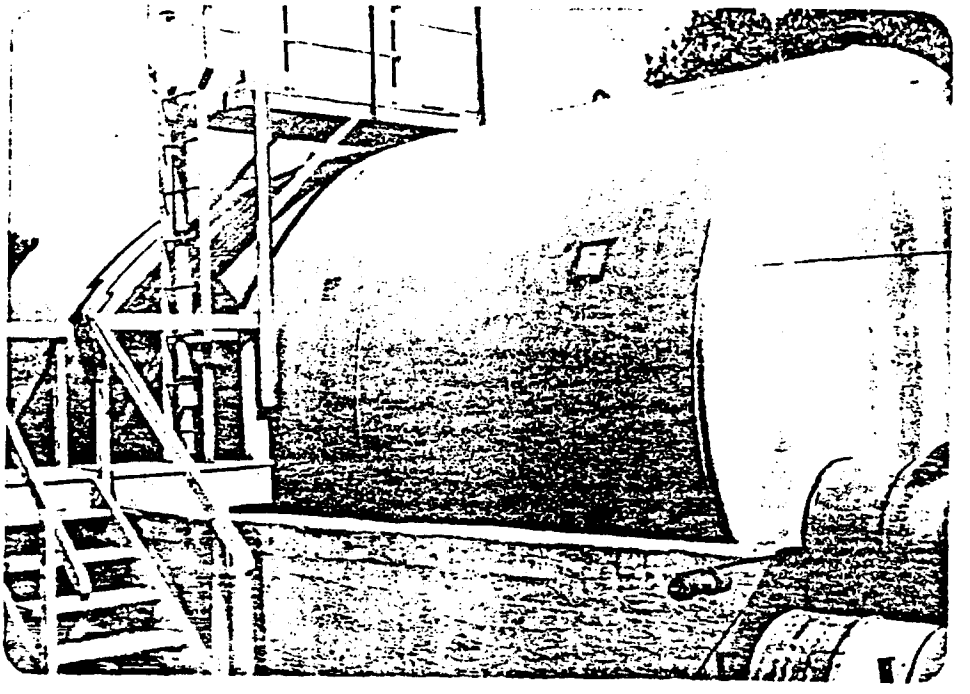
Barrel with pump used to pump Therminol into large storage tank. Other barrels are empty.

ATTACHMENT B
(continued)

JUNE 5, 1981

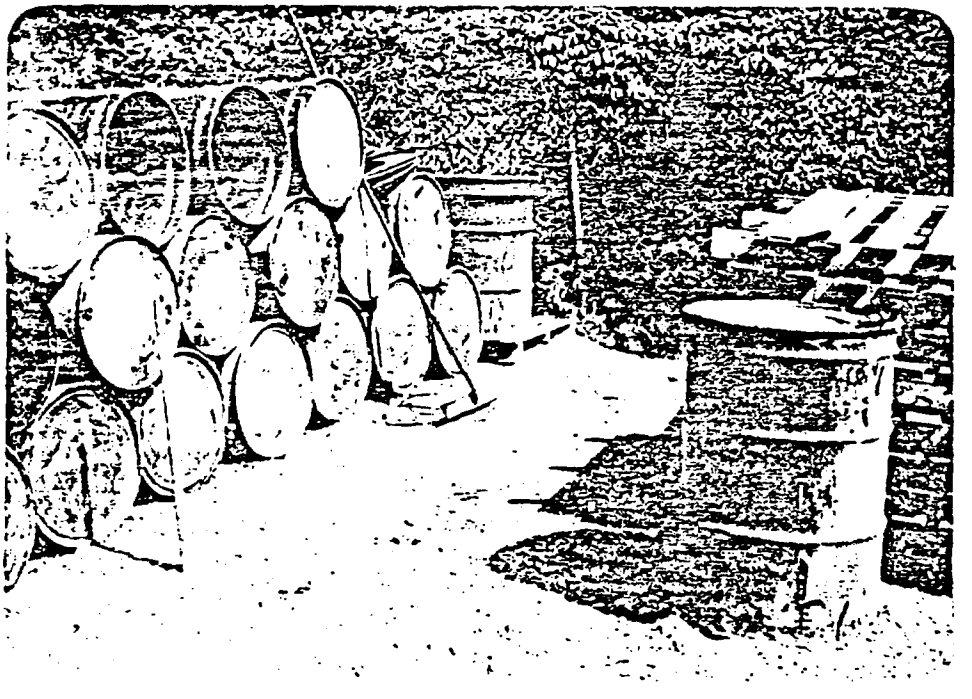
PHOTOGRAPHS FROM G & W NATURAL RESOURCES

3.



Waste Therminol storage tank.

4.

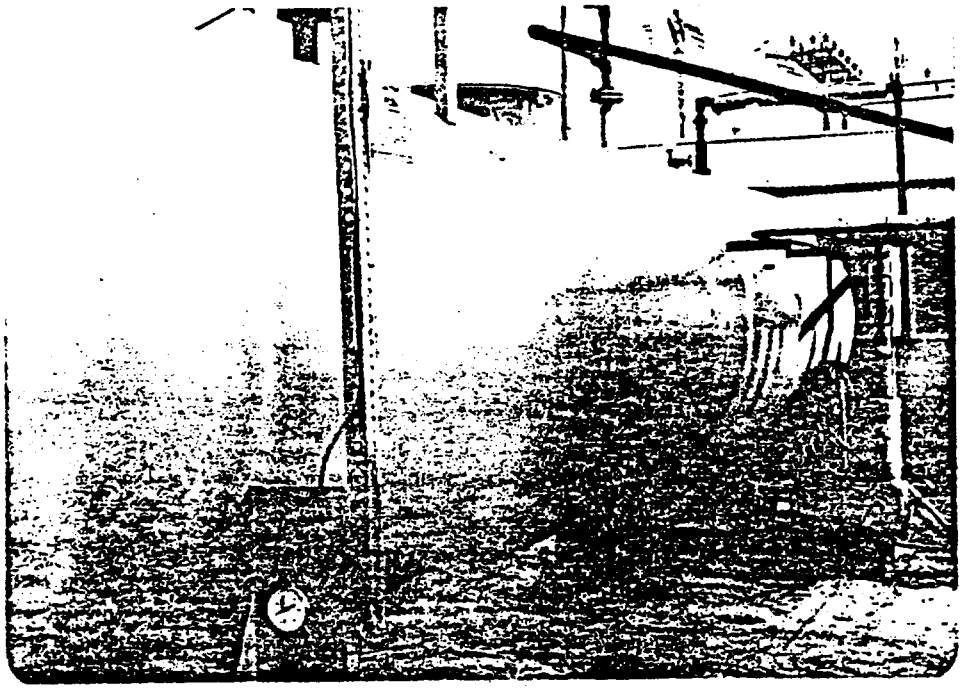


Two standing barrels containing PCB-contaminated rags and clothing. Other barrels are empty.

ATTACHMENT B JUNE 5, 1981

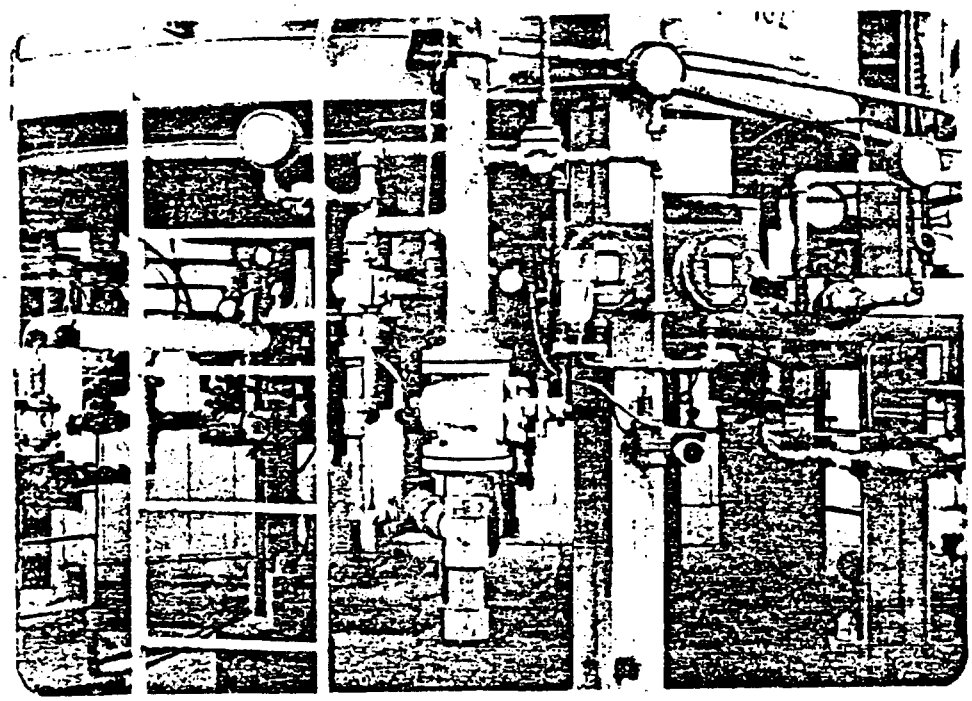
PHOTOGRAPHS FROM G & W NATURAL RESOURCES

1.



Empty Therminol storage tank.

2.



Heat transfer system with M_L PCB label.

ATTACHMENT B

LIST OF PHOTOGRAPHS

GULF AND WESTERN NATURAL RESOURCES GROUP
2426 MIDDLE ROAD
ASHTABULA, OHIO 44004

JUNE 5, 1981

1. Empty Therminol storage tank.
2. Heat transfer system with M_L PCB label.
3. Waste Therminol storage tank.
4. Two standing barrels containing PCB-contaminated rags and clothing. Other barrels are empty.
5. Barrel with pump used to pump Therminol into large storage tank. Other barrels are empty.

VERSAR inc.

ATTACHMENT A

PCB ANALYTICAL REPORT

PREPARED FOR: Mr. Jon Byroade

REF. # 717.18

Facility Inspected Gulf and Western

SAMPLE NO.	LAB NO.	CONCENTRATION PARTS/MILLION	AROCLOR	COMMENTS
GW-01	4161	28	1242	Heat Transfer Fluid
GW-02	4162	9600	1242	Heat Transfer Fluid
GW-03	4163	10,000	1242	Heat Transfer Fluid

DATE: 8/19/81

Mark T. Carkhuff

MARK T. CARKHUFF, CHEMIST
APPLIED CHEMISTRY DIVISION

6621 ELECTRONIC DRIVE, SPRINGFIELD, VIRGINIA 22151 TELEPHONE: (703) 750-3000

TABLE 1. PCB ANALYTICAL RESULTS FOR GULF AND WESTERN NATURAL RESOURCES GROUP

Sample Number	Description	PCB Concentration (ppm)	Aroclor Type
1	Heat transfer fluid	28	1242
2	Fluid from top of 25,000-gallon storage tank	9,600	1242
3	Fluid from bottom of 25,000-gallon storage tank	10,300	1242

IV. Facility Description

Gulf and Western Natural Resources produces titanium dioxide and titanium tetrachloride for the titanium metals industry. This plant supplies the four major titanium manufacturers. The plant works around the clock and employs approximately 150 people.

V. Inspection Summary

The inspectors arrived at Gulf and Western on the morning of June 5, 1981, and met Mr. Douglas Towner, Plant Manager, and Al Steinbronn, Production Superintendent. Both men were presented with the inspectors' credentials, a "Notice of Inspection" and a "Confidentiality Notice." Mr. Towner signed both notices. The inspectors reviewed the PCB equipment lists and other records. Mr. Steinbronn led the inspectors on a tour of the plant.

The PCB capacitors were inspected first, then the transformers. A sample of the 500°F heat transfer fluid was drawn into two one-gallon unused metal paint cans and allowed to cool. The first can was taken in order to purge the drainline. While the heat transfer fluid sample was cooling, the group inspected the waste Therminol storage tank and collected a sample from the top using a depth sampler attached to a pole. Another sample was taken from the bottom of the fluid in the tank using the same device. The inspectors returned to the heat transfer unit and dipped a sample bottle into the second can of fluid. Plant officials split samples with the inspectors.

Gulf & Western disposed of two Westinghouse PCB capacitors on June 7, 1980. The hazardous waste manifest is included as Attachment No. 4. The capacitors were taken to Chemical Waste Management in Livingston, Alabama.

All three in-service PCB transformers and 15 of the 18 in-service PCB capacitors were inspected. All were labeled with M_L PCB labels and were not leaking. The room with the two 750 kva ITE transformers was diked. The transformer service sheets from Transformer Services, Inc. are included as Attachment No. 3.

The heat transfer system was sampled from a valve in the recirculation line. PCB analysis of this sample reveals a PCB concentration of 28 ppm Aroclor 1242. Gulf and Western personnel estimated the PCB content to be approximately 50 ppm, based on extensive testing of the system (See Attachment No. 2). The heat transfer system was marked with the M_L PCB label.

An empty 8000-gallon Therminol storage tank was located near the heat transfer system. The tank was surrounded by a four-foot concrete containment wall, was situated above a concrete floor, but did not have a roof protecting it from rainfall. The tank was marked with the M_L PCB label.

The 25,000-gallon capacity waste Therminol storage tank was sampled at the top and bottom fluid levels. Analytical results showed that the average PCB concentration of the top and bottom samples was 9800 ppm Aroclor 1242 (See Table 1). This tank contained approximately 12,500 gallons of heat transfer fluid at the time of the inspection. This tank was marked with the M_L PCB label and was surrounded by a three-foot concrete containment wall with a concrete floor, but no roof to protect it from rainfall.

Three 55-gallon drums were stored next to the waste Therminol storage tank. Mr. Steinbronn stated that these drums contain a PCB-contaminated pump, clothing, gloves, and rags. None of the drums were marked with M_L PCB labels. They were not protected from rainfall and were not stored on a concrete floor or in a curbed area (See Photographs 4 and 5).

Objective

The purpose of this inspection was to document and verify the compliance of Gulf and Western Natural Resources Group with Federal PCB Disposal and Marking Regulations (40 CFR 761) published in Part VI of the Federal Register on May 31, 1979. The specific objective of this inspection was to verify compliance with marking and storage regulations.

I. Facility and Responsible Official

Gulf and Western Natural Resources Group
2426 Middle Road
Ashtabula, Ohio 44004

Douglas A. Towner, Manager
Phone: (216) 997-5501

II. Inspection Date and Participants

June 5, 1981
Gulf and Western Natural Resources Group - Douglas Towner, Manager
Alfred C. Steinbronn,
Production Superintendent

Versar Inc. - James R. Foster, Compliance Auditor
Robert F. Murphy, Compliance Auditor

III. Inspection Findings

From physical inspection of the plant and a review of company records, the inspectors obtained the following information. Gulf and Western Natural Resources Group has three in-service PCB transformers, 18 PCB in-service capacitors, a PCB-contaminated heat transfer system, a storage tank with approximately 12,500 gallons of PCB-contaminated fluid from the heat transfer system, an empty 8000-gallon PCB-contaminated storage tank, and three 55-gallon drums containing a PCB-contaminated pump, rags, gloves, and clothing. The list of PCB equipment and the status report on the draining of the heat transfer unit are included as Attachment Nos. 1 and 2. There were no hydraulic units at this facility.

REPORT ON INSPECTION TO DETERMINE COMPLIANCE WITH THE FEDERAL PCB DISPOSAL AND MARKING REGULATIONS

GULF AND WESTERN NATURAL RESOURCES GROUP
2426 MIDDLE ROAD
ASHTABULA, OHIO 44004

JUNE 5, 1981

PERFORMED FOR:

U.S. ENVIRONMENTAL PROTECTION AGENCY
TOXIC SUBSTANCES OFFICE
230 SOUTH DEARBORN STREET
CHICAGO, ILLINOIS 60604

PERFORMED BY:

VERSAR INC.
6621 ELECTRONIC DRIVE
SPRINGFIELD, VIRGINIA 22151

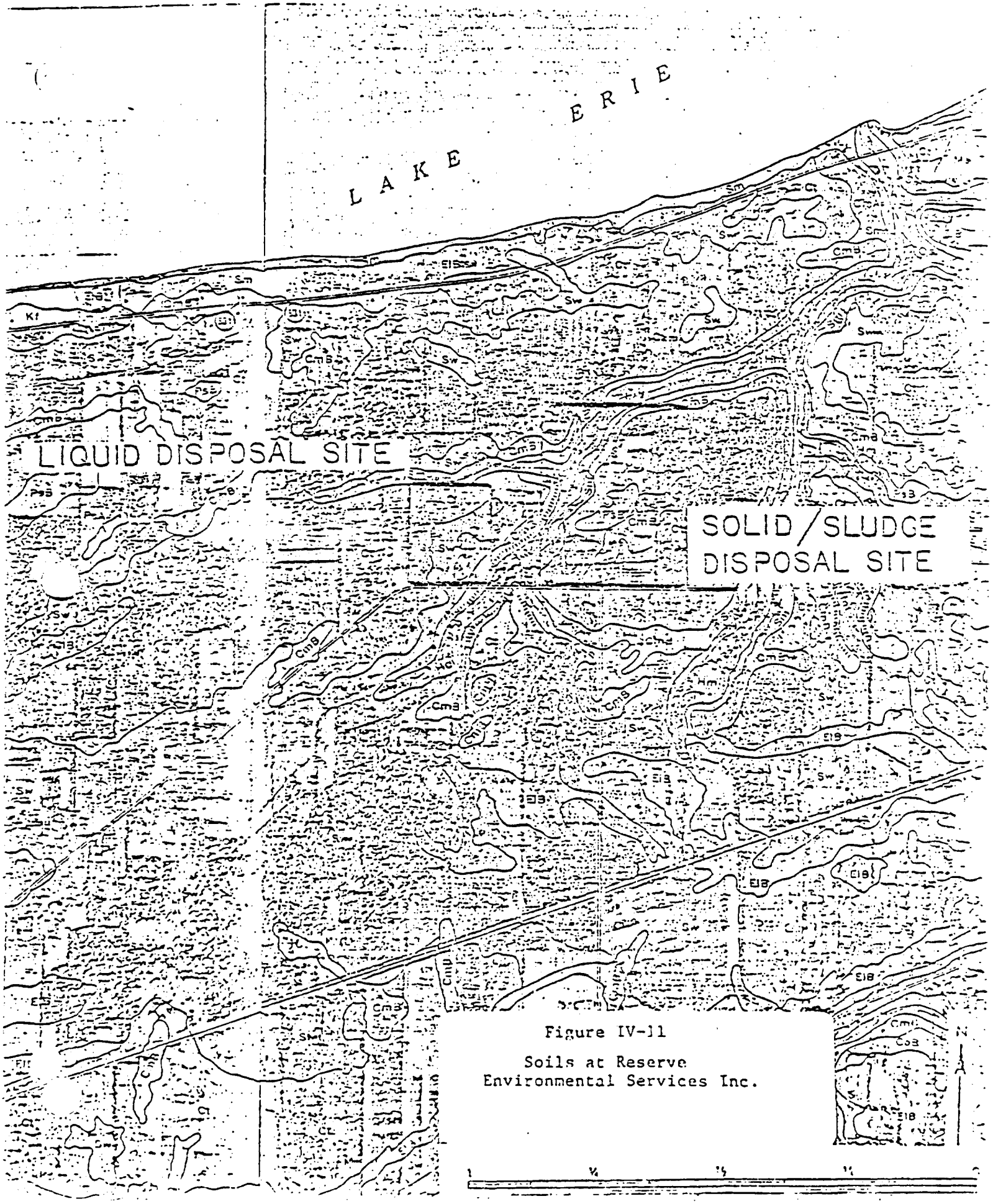


Figure IV-11

Soils at Reserve
Environmental Services Inc.

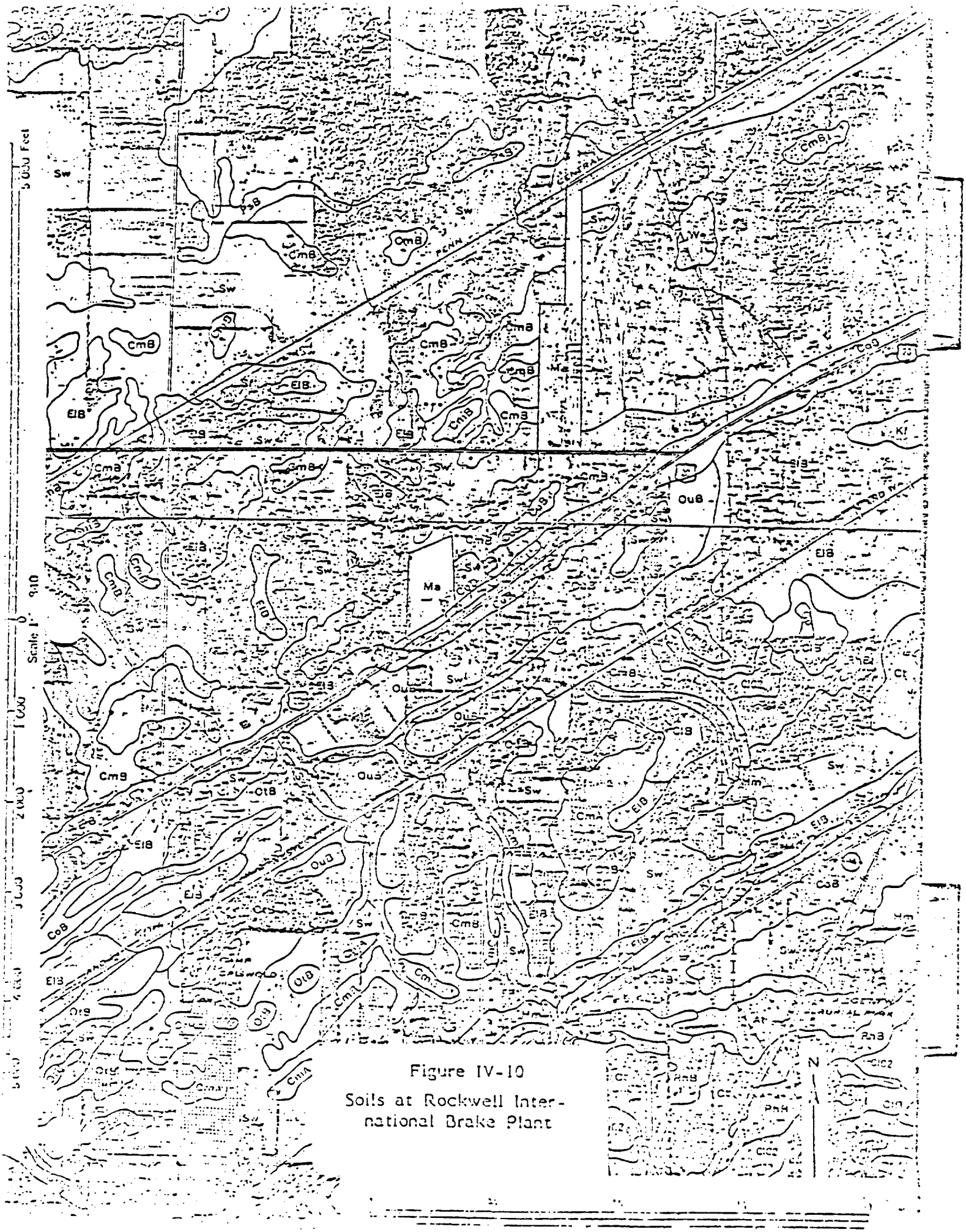


Figure IV-10

Soils at Rockwell International Brake Plant

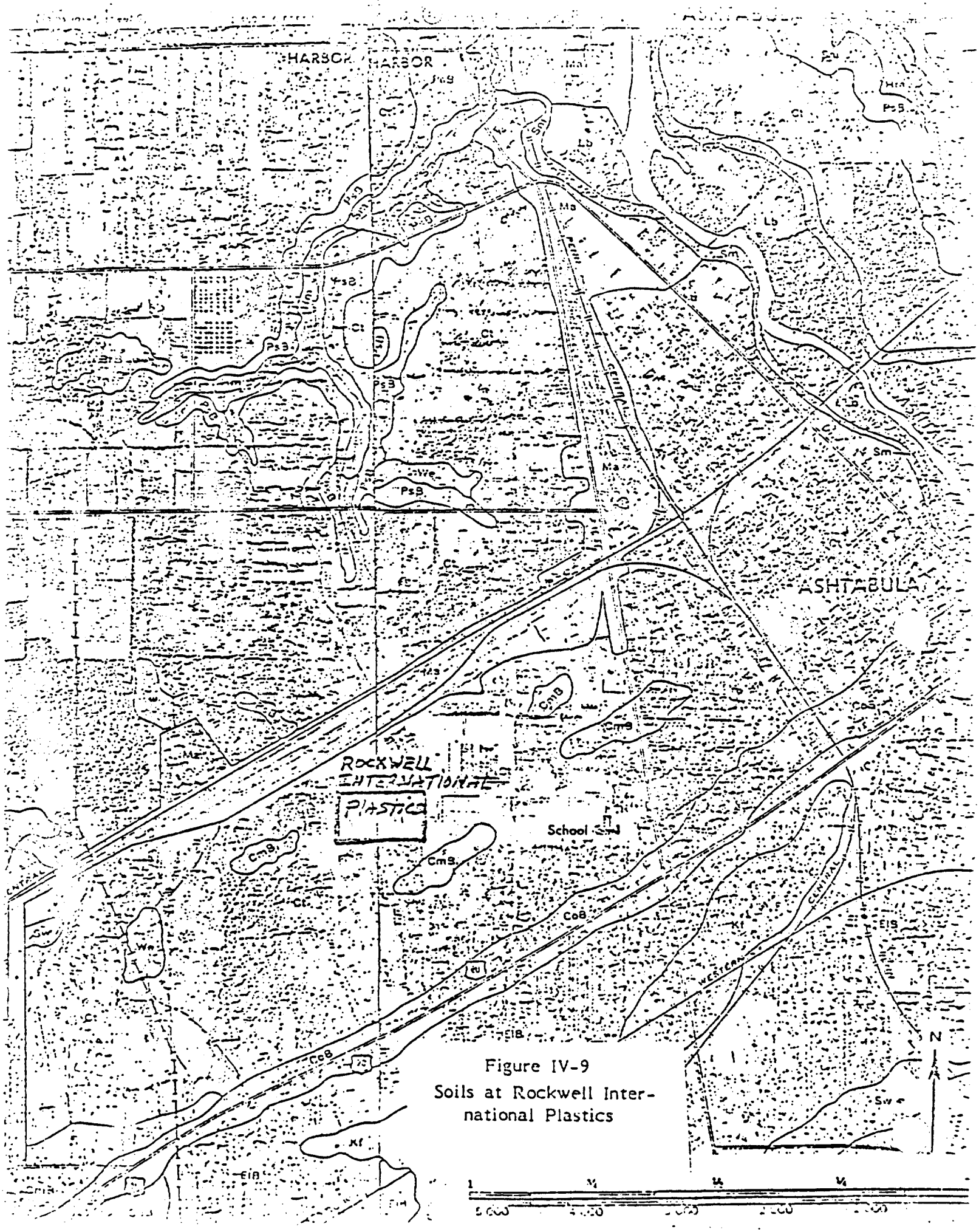
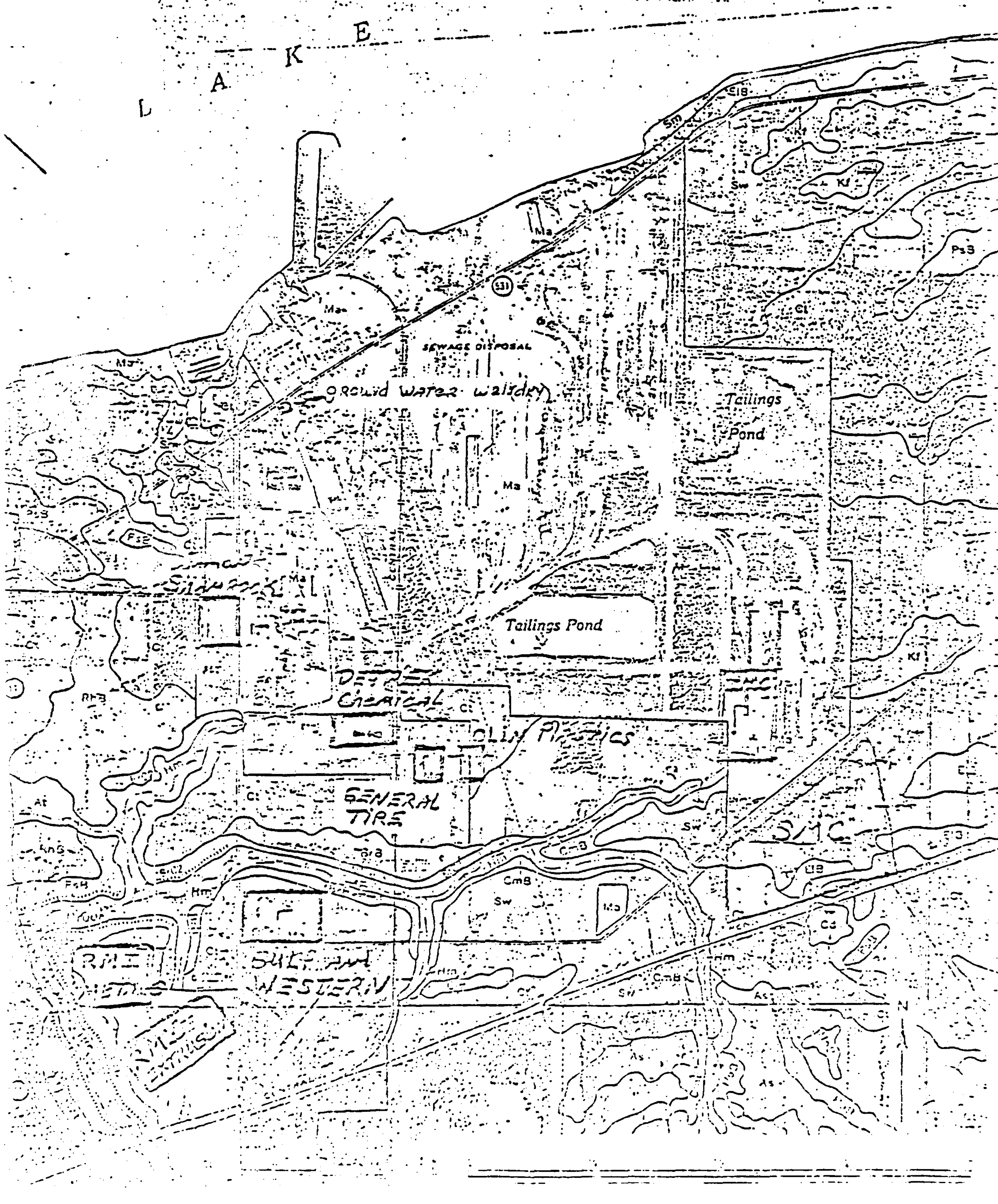


Figure IV-9
Soils at Rockwell International Plastics

Figure IV-8

Industry Location & Soils Map



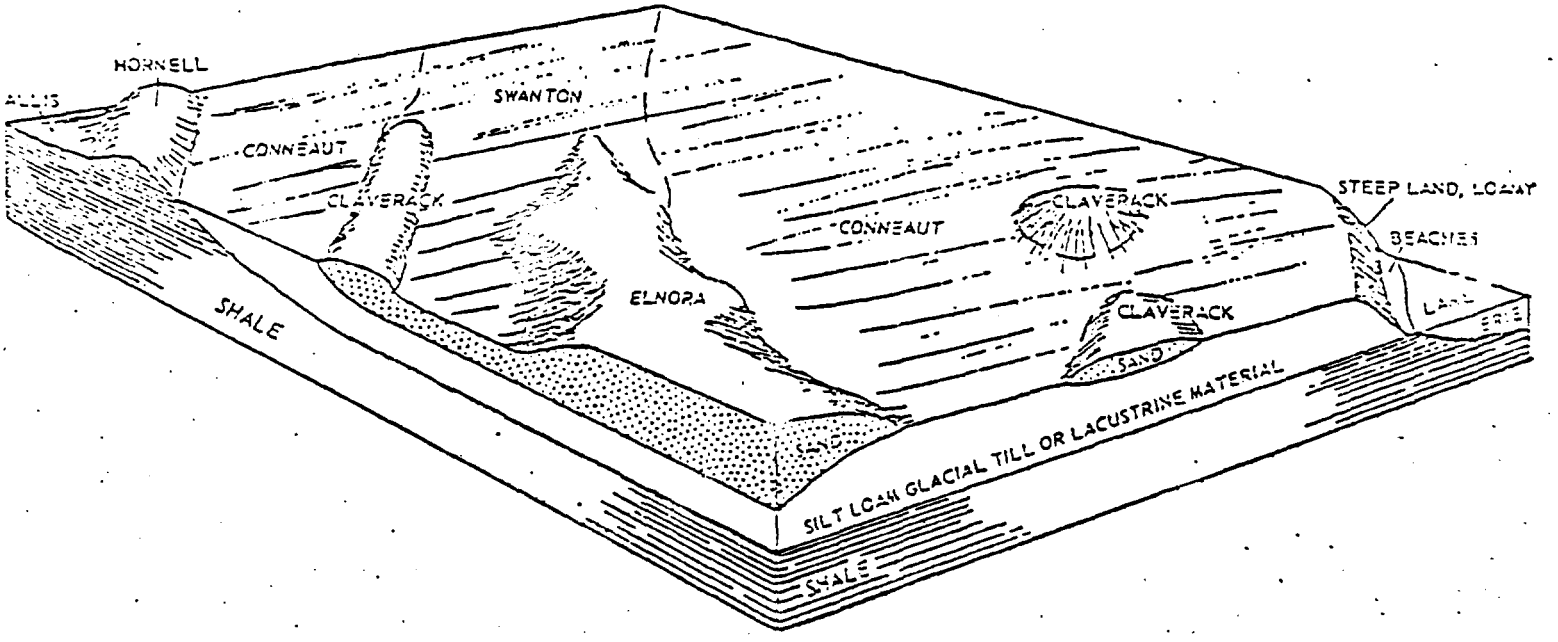
Soils Map of [illegible] Brook

Geologic Cross Section of [illegible]

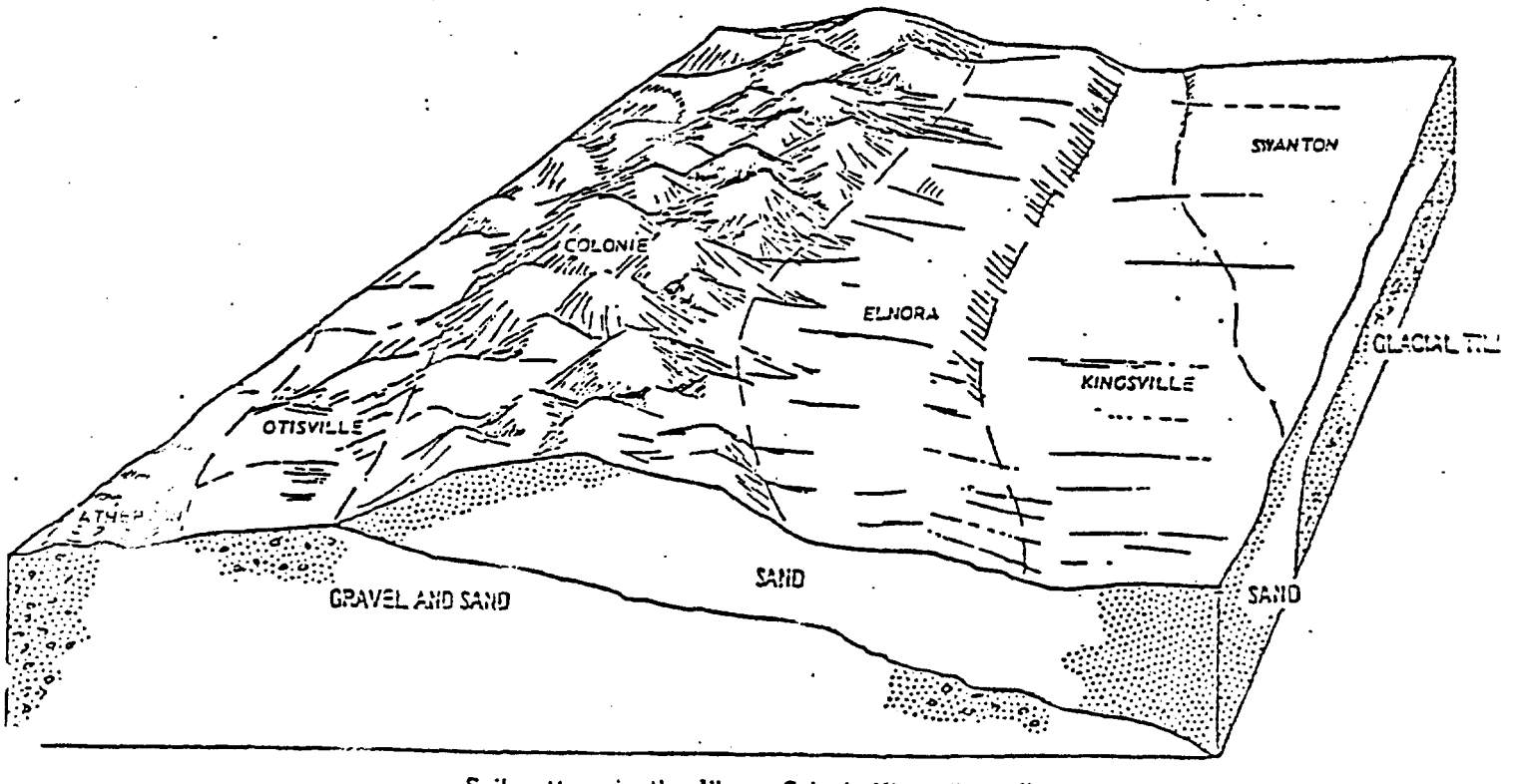
Scale. 1:24000

Figure IV-7

General Soil Patterns



Soil pattern in the Conneaut-Swanton-Cloverack soil association.



Soil pattern in the Elnora-Colonie-Kingsville soil association.

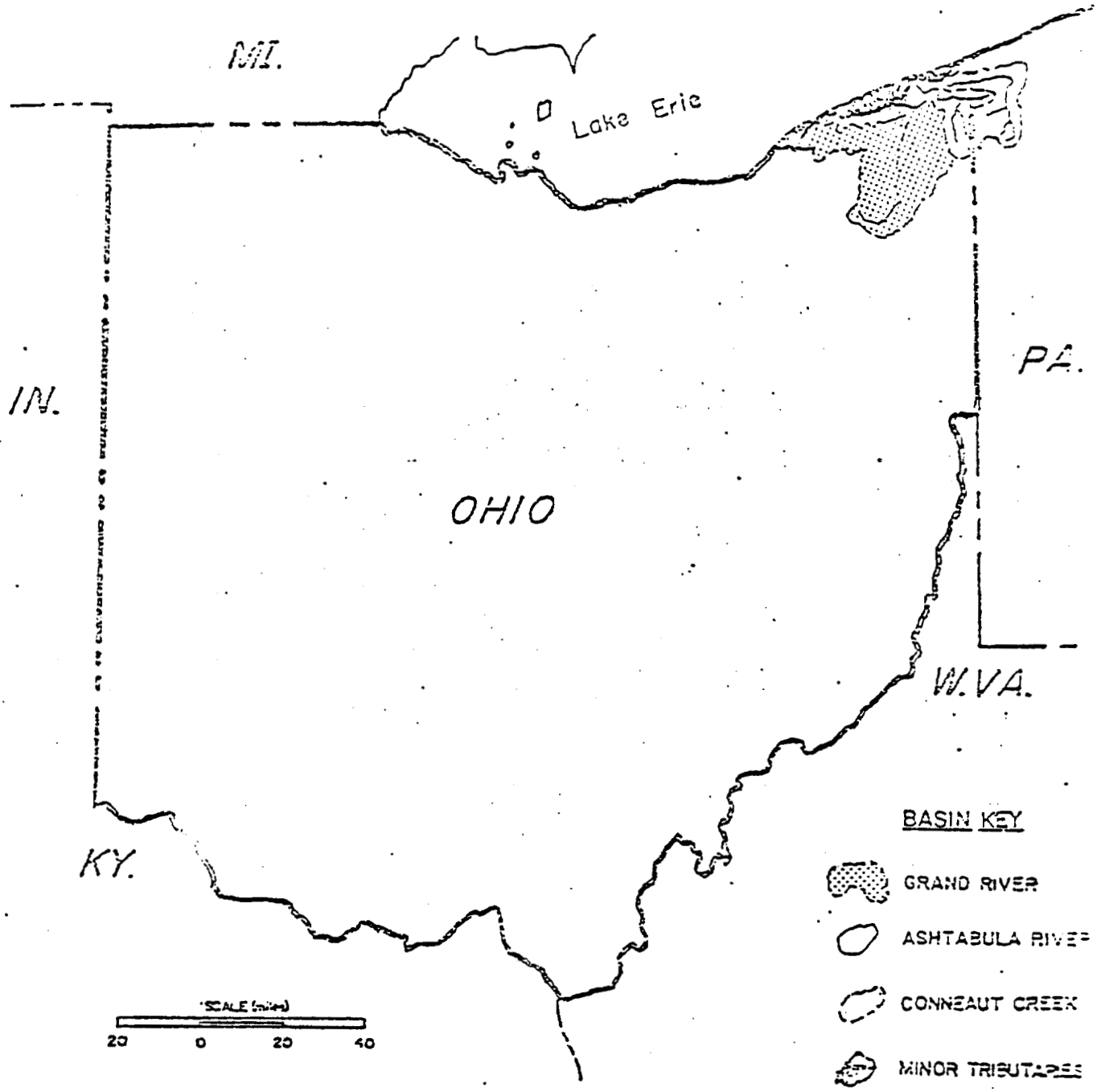


FIGURE IV-1

NORTHEAST OHIO TRIBUTARIES

BASIN LOCATIONS

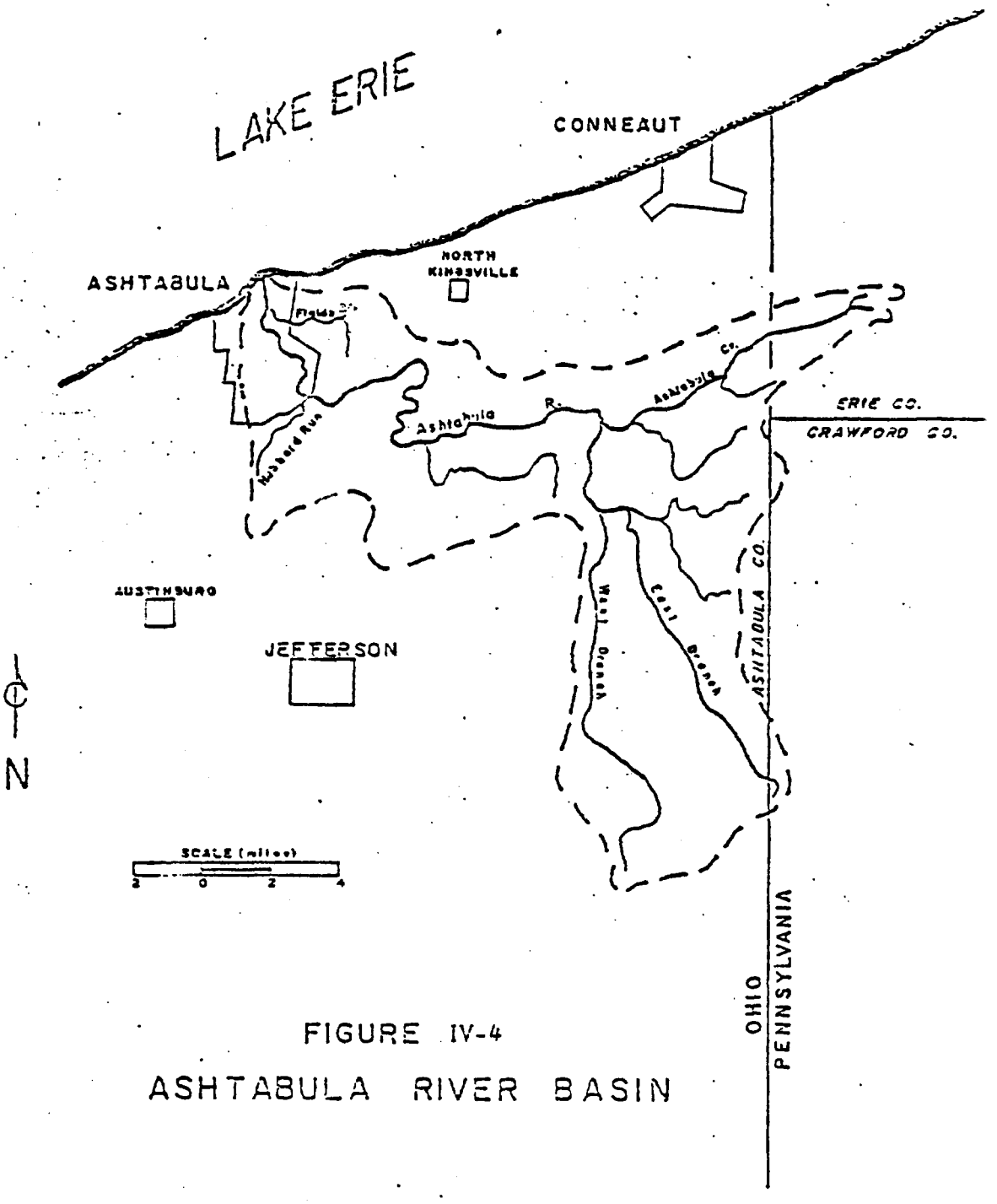


FIGURE IV-4

ASHTABULA RIVER BASIN

a. An on-site soil survey should be conducted to determine the location of wastes with respect to soil types.

b. Monitoring wells should be installed around the older solid/sludge disposal site.

c. Additional monitoring wells should be installed around the liquid waste disposal site.

d. Samples of Whitman Creek should be taken upstream and downstream of this facility during periods of no precipitation.

The need for these actions is substantiated by the findings of an Ohio EPA sampling survey conducted in July 1976. Stream samples taken at this time indicated that iron and lead concentrations in Whitman Creek exceeded Ohio water quality standards for seasonal warmwater habitats. Lead concentrations were found to be 1.5 mg/l downstream from this facility while upstream samples did not contain detectable concentrations of lead.

RMI - Extrusion and RMI - Metal Reduction:

These facilities are located on made earth soils which appear to be Atherton, Braceville, and Conneaut soils that have been covered by earth fill. The upper three feet of Atherton soils are fine grained and have slow permeabilities. Below three feet, however, these soils are predominantly gravel, have rapid permeabilities, and thus are capable of transporting pollutants. Braceville soils are similar to Atherton soils except that the underlying material is sand and gravel, and is therefore slightly less permeable. The Conneaut soils are fine grained, have slow permeabilities, and will tend to confine pollutants to a narrow zone surrounding the pollutant source. On Atherton and Braceville soils, any pollutant source which extends more than three feet below ground surface will probably contribute pollutants to Fields Brook. Accurately assessing the potential for pollution of Fields Brook, however, will require an on-site soil survey to determine the location of pollutant sources with respect to soil types, and determination of lagoon depths and liner characteristics.

Rockwell International Plastics Plant

This facility (see Figure IV-9) is located entirely on Conneaut soils. These soils have a high clay content which restricts groundwater movement and thus reduces the potential for groundwater contamination. Because of this, the potential for groundwater contamination is limited.

Rockwell International Brake Plant

This facility (see Figure IV-10) is located on Otisville soils which have developed on beach ridges. These soils are composed of coarse sand and fine gravel, and thus have rapid permeabilities. Pollutants placed on these soils are likely to contaminate the groundwater and also leach into Red Brook. Because these soils contain very little clay, the concentration of pollutants is not likely to be significantly reduced during transport through the soil.

This facility has two infiltration ponds which receive liquid wastes containing chromium, zinc phosphate, and paint line wash water. Groundwater contamination from these ponds is likely. Soil borings should be taken to determine the nature and extent of groundwater contamination.

Reserve Environmental Services Inc.

The major soils in this area (see Figure IV-11) are the Conneaut, Swanton, Claverack, Plateau, and Holly soils. Conneaut soils have a high clay content which, under normal conditions, will restrict pollutants to a narrow zone surrounding the pollutant source. Because clays are soluble in acids, however, the restrictive capacity of the Conneaut soils may be altered.

The Swanton and Claverack soils are similar to Conneaut soils except that the upper 1-3 feet has a rapid permeability which could allow pollutants to travel horizontally relatively unimpeded. The Plateau soils have very slow permeabilities and thus generally tends to restrict the movement of pollutants. These soils, however, allow seepage along a fragipan, and therefore, are capable of allowing shallow horizontal movement of pollutants. Holly soils are flood plain soils, and thus mark the boundaries of the Whitman Creek flood plain.

Because of the possibility of horizontal movement of pollutants through some of these soils, the placement of wastes within thirty feet of Whitman Creek, and the character of the wastes (see Attachment 25), the following is recommended.

Detrex Chemical Industries - Muriatic Plant, General Tire and Rubber Company, and Olin Plastics Corporation:

As is typical of the Ashtabula area, the groundwater supply is extremely limited and contains hydrogen sulfide and high concentrations of dissolved solids. The groundwater is not utilized for water supply, and is not likely to be utilized for this purpose in the forseeable future. Because of this, pollution of this resource is not likely to be a health hazard. The movement of pollutants through the soils and into Fields Brook, however, would be considerably more problematic, and therefore is the focus of this report.

The ability of the local soils to transmit pollutants to Fields Brook is difficult to assess because of the highly variable transporting characteristics of these soils, and the presence of made earth soils at these facilities. Review of soil borings at Olin Plastics (see Attachment 1) and Ashtabula County soils maps, indicates these made earth soils are probably Conneaut and Swanton Soils which have been covered by sandy silt fill (see Figure IV-8). These soils have a high clay content which tends to slow groundwater movement, and thus restrict groundwater contamination to a narrow zone surrounding the pollutant source. The upper 1-3 feet of Swanton soils, however, has a rapid permeability and could serve as a conduit for the flow of pollutants to Fields Brook. The sandy silt fill could also serve as a conduit for the movement of pollutants to Fields Brook. Therefore, the following is recommended:

a. An on-site soil survey should be conducted to determine the location of pollutant sources with respect to soil types.

b. Soil borings should be made near Fields Brook and the north tributary to inspect this soil for permeable zones and the presence of pollutants.

The need for these actions is substantiated by the character and number of pollutant sources at these facilities. Detrex Chemicals Industries Inc. had six lagoons which were used to dispose of wastes containing chlorinated solvents. Four of these lagoons were abandoned prior to 1953 after becoming filled with wastes. Because only two of these lagoons have been covered with clay, precipitation probably percolates through these wastes and thereby recharges pollutants into the groundwater.

General Tire and Rubber, which has three settling ponds, and Olin Plastics, which has three unlined surge ponds, are also potential pollutant sources. No information is available to assess the leakage potential of these ponds.

Diamond Shamrock Corporation, Semi-Works:

Review of Ashtabula County Soils maps shows this facility is located on made earth soil. This appears to be Conneaut soils that have been covered by fill. Conneaut soils have a high clay content which will restrict groundwater movement and thus confine pollutants to a narrow zone surrounding the pollutant source. Therefore, the potential for pollution of local groundwater or Fields Brook from the lined reservoirs is probably low.

International Minerals and Chemical Corporation (IMC):

This facility is located on made earth soils which appear to be Swanton and Kingsville soils that have been covered with earth fill. Swanton soils have an upper layer which is rapidly permeable and can serve as a conduit for the flow of contaminated groundwater. Kingsville soils are rapidly permeable and will readily transport pollutants. U.S. EPA RCRA Reconnaissance Inspection Report, dated May 2[illegible] 1980, indicates that this facility has a lagoon into which it disposes wastes containing mercury, calcium, magnesium, potassium, and other materials. Attachment 4 of that same report indicates that an on site investigation has shown a significant degradation of groundwater quality within 1,000 feet of the lagoon. This indicates that the lagoon is not adequately lined and that these soils are transporting pollutants. Because infiltration from the pond and large variations in soil permeability can dramatically alter the general groundwater flow, it is highly probable that pollutants are entering Fields Brook.

The groundwater investigation cited in the above mentioned RCRA inspection should be reviewed to determine the direction of pollutant movement. The need for further action should be dependent upon the results of that review.

SMC - Glidden Durkee Company:

This facility is located on Conneaut, Swanton, and Elnora soils. Conneaut soils, because of their high clay content, will tend to restrict groundwater movement and thus limit the flow of pollutants into Fields Brook. The upper 1-3 feet of Swanton soils have a rapid permeability which could allow pollutants to reach Fields Brook. Elnora soils, which are formed in fine sands of old beach ridges, have a rapid permeability and will readily transport pollutants. Because of the contrasting characteristics of these soils, the potential for groundwater contamination will depend upon the location of pollutant sources with respect to soil type. Significant groundwater flow to Fields Brook tributaries can be expected if any of the waste treatment basins are located on or near Elnora soils. An on-site soil survey, and analysis of basin liner material, if any, would greatly facilitate the assessment of the potential for pollution of ground and surface waters.

Gulf & Western Natural Resources Group - $TiCl_4$ Plant

This facility is located on Braceville and made earth soils. Braceville soils have a fragipan which will restrict vertical movement of pollutants. Below three feet, however, these soils contain strata of sand and gravel which are moderately permeable and are capable of transporting pollutants. Any pollutant source on Braceville soils which extends more than three feet below ground surface will probably contribute pollutants to Fields Brook. The made earth soils appear to be Conneaut soils covered with earth fill. These soils have a high clay content which tends to restrict pollutants to a narrow zone surrounding the pollutant source.

Because of the proximity of this facility to Fields Brook, and the presence of Braceville soils, the following is recommended:

a. An on-site soil survey should be conducted to determine the location of the lagoons and solid waste piles with respect to soil types.

b. Soil borings should be taken in the vicinity of Fields Brook.

IV. DESCRIPTION OF AREA

A. Location Maps

The major thrust of regulatory concern was aimed at those industries tributary to the Ashtabula River Basin. A location map showing the Ashtabula River Basin and other Northeast Ohio Tributaries is presented in Figure IV-1. The specific locations of industries investigated are shown in Figures IV-2 and IV-3.

B. Ashtabula River Basin

The Ashtabula River is formed in Monroe Township, Ohio, by the confluence of the West Branch, which rises in eastern Ashtabula County and flows north, and the East Branch, which originates in extreme western Pennsylvania and flows northwest (Figure IV-4). The river then flows in a northwesterly direction and empties into Lake Erie at Ashtabula. Significant tributaries to the stream are Fields Brook, East Branch, Hubbard Run and Ashtabula Creek. Including West Branch, the stream is approximately 40 miles long with a total drainage area of 137 square miles. Nine square miles lie within Pennsylvania.

The topography of the basin is characterized by rolling countryside with deep and narrow valleys. From an elevation of 1033 feet above sea level in Richmond Township near the headwaters, the stream falls at an average slope of 11.6 feet per mile to an elevation of 573 feet above sea level at Lake Erie. Approximately 80 percent of the Ashtabula River basin is committed to farming and woodlands, with most of the industrial development located on Fields Brook and in the area surrounding the City of Ashtabula, which is also the largest population center (23,344).

C. General Geologic Setting

The Ashtabula/Fields Brook area is located on the glaciated Lake Plain section of the Central Lowlands Province. It is approximately three miles north of the Portage escarpment, which marks the northern border of the Central Lowlands Province. The Lake Warren beach ridge extends through Ashtabula at an elevation of approximately 700 feet, and Lake Whittlesey beach ridge is located at the south end of Ashtabula. This area has been glaciated twice, the most recent being of Wisconsin Age. These glacial advances left only a thin cover of drift which averages approximately 25 feet in thickness. The soil characteristics of this glacial cover varies with location, but silts and clays are predominant. The clays are primarily illite and chlorite with some kaolinite.

D. Geology and Soils of Fields Brook

As most of the industrialization in the Ashtabula area is tributary to Fields Brook, a more detailed description of this area is presented. The rocks underlying the Fields Brook basin are siliceous Devonian Age shales of the Ohio Formation. The uppermost unit is probably the Chagrin Member. These shales are hundreds of feet thick, and contain thin sandstone beds. Due to the low permeability and great thickness of these shales, vertical groundwater movement is highly restricted. Because of this, any potential for groundwater contamination is confined to the soils above the bedrock.

The glacial deposits which cover the bedrock, average 25 feet in thickness, but vary from 0 to 60 feet within the Fields Brook area. The nature of the contact between the glacial deposits and the bedrock is illustrated in Figure IV-5. The bedrock

surface, which is an erosional surface, slopes toward Lake Erie. This will induce the groundwater to flow generally toward the lake.

Ohio EPA has made some geologic investigations in association with its regulatory activities. Copies of those geologic reports made available by Ohio EPA are found in the Appendix, Attachment 1.

Soils

The three major soils (see Figure IV-6) are the Conneaut silt loam (Ct), the Swanton fine sandy loam (Sw), and made land (Ma). The Conneaut silt loam is a nearly level, poorly drained soil formed in lake deposits. It has a high seasonal water table (0 to ½ ft.), and slow permeability (10^{-4} to 10^{-5} cm/sec). It also is acidic, and has a high steel corrosion potential. The Swanton fine sandy loam is similar to the Conneaut, except that the upper 18-40 inches of soil is sandy, and has a rapid permeability. Made land is a highly variably soil which results from cut and/or fill activities.

There are several additional soils which are limited in areal extent, but are valuable in providing an understanding of the area. The Hornel silt loam (HoB) occurs where the shale bedrock protrudes above the glacial cover, and the Allis silt loam (As) occurs where the bedrock is approximately 2-3 ft. below the soil surface. The beach ridges are delineated by the Colonie soils (CoB and CoD), the Otisville soils (OtB, OuB, OuC, and OvE), the Elnora loamy fine sand (ElB), and the Chenango Soils (CkA, CkB, CkC2, CkD2, ClA, ClB, and ClC2). Figure IV-7 shows general soil patterns for many of these soils.

E. Groundwater Resources

The groundwater supply is generally limited to the upper few feet of the weathered shale surface, and seldom provides more than three gallons per minute. This water frequently contains hydrogen sulfide and high concentrations of dissolved solids. Therefore, the water frequently has an objectionable taste and smells similar to rotten eggs. In addition, salt water is frequently encountered in wells which exceed 80 feet in depth. Because of the poor quality of this resource, and the limited available supply, groundwater wells in this area are almost nonexistent. Review of Ohio Department of Natural Resources water well files reveals only one well in the Fields Brook area, and it is dry.

The Ohio EPA was contacted regarding the groundwater quality, and these data are in the Appendix, Attachment 2. This information is limited due to the lack of wells in the immediate area.

Located south of Fields Brook along U.S. Route 20 and SR 84, are the earlier mentioned beach ridges. These deposits are composed of sand and/or gravel, and are known to provide adequate supplies of groundwater for domestic use. Groundwater wells in these deposits yield up to 10 gallons per minute.

F. Potential for Groundwater Contamination

The potential for groundwater contamination in the Ashtabula area varies greatly with location. Therefore, the potential for groundwater contamination will be discussed separately for each facility.

TSII
Transformer Service (Ohio), Inc.
Midwest
Buchtel-Market Bldg.
680 East Market Street
Akron, Ohio 44304
Telephone: (216) 376-2412

TABLE OF SPECIFICATIONS

MINERAL OIL

TEST	ASTM #	NEW	POINT OF ECONOMICAL SERVICE	AFTER TREATMENT
COLOR	D1500	1.0	4.0 Max.	1.0 - 4.0
SLUDGE	Visual	Clear	Trace	Clear
I.F.T.	D971	30 -40+	20.0 Min.	36.0 Min.
NEUT. NO. (ACID)	D974	.05 Max.	.10 - .15 Max.	.03 Max.
DIELECTRIC	D877	30 KV Min.	25 KV Min.	35 KV Min.

ASKARELS

TEST	ASTM #	NEW	POINT OF ECONOMICAL SERVICE	AFTER TREATMENT
COLOR	D2129 & Visual	150	500 Max.	100 - 300
SLUDGE	Visual	Clear	Clear	Clear
NEUT. NO. (ACID)	D974	.014	NOT APPLICABLE	
DIELECTRIC	D877	35 KV Min.	30 KV Min.	35 KV Min.
SPECIFIC GRAVITY	D1810	1.380	1.380	1.380

COMMENTS: I.F.T. - Dynes/cm Mineral oil only

NEUT. NO. - mg KOH/g

SPECIFIC GRAVITY - Direct weight @ 77°F.

Transformer Service (Ohio), Inc.
680 East Market Street
Akron, Ohio 44304

SALE OF ASKARELS

THIS MATERIAL IS SOLD ON THE UNDERSTANDING THAT IT IS FOR USE IN TRANSFORMERS ONLY.

ASKAREL CONTAINS POLYCHLORINATED BYPHENYLS (PCB'S) WHICH TEND TO PERSIST IN THE ENVIRONMENT AND, THEREFORE, CARE IS REQUIRED IN ITS HANDLING, POSSESSION, USE AND DISPOSITION. ACCORDINGLY, BUYER AGREES THAT IT SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS SELLER, ITS DIRECTORS, OFFICERS, EMPLOYEES AND AGENTS FROM AND AGAINST ANY AND ALL LIABILITY OR EXPENSE WHATSOEVER ARISING OUT OF, OR IN CONNECTION WITH, THE POSSESSION, HANDLING, USE, SALE OR DISPOSITION OF SUCH ASKAREL PURCHASED BY BUYER ON THIS ORDER WHICH RELATES IN ANY WAY TO CONTAMINATION OF OR ADVERSE EFFECT ON, ANY PART OF THE ENVIRONMENT INCLUDING BUT NOT LIMITED TO HUMANS, ALL OTHER ANIMAL LIFE, PLANT LIFE OR FOOD BY REASON OF SUCH ASKAREL.

STREET OR RD.

ATTACHMENT 4

CITY, STATE, ZIP CODE

B. PRODUCER ORDER PLACED BY DATE

II. DESCRIPTION OF WASTE (Must be filled in by Producer)

A. TYPE OF PCB WASTE (/ One Below)

- ☐ PCB Fluid (Dielectric, Hydraulic, etc.)
- ☐ PCB Contaminated Fluid
- ☐ Transformer
- ☒ Capacitor
- ☐ PCB Contaminated Solvents
- ☐ PCB Contaminated Oils
- ☐ PCB Contaminated Soil
- ☐ PCB Contaminated Cleanup Materials (Rags, etc.)
- ☐ PCB Contaminated Machinery
- ☐ PCB Contaminated Process Waste
- ☐ Other (Specify)

B. PHYSICAL DESCRIPTION OF PCB WASTE

1. Total Quantity (/ One Below)
   - ☐ Lbs.
   - ☐ Tons
   - ☐ Cu. Yards
   - ☒ Gals.
   - ☐ 55 Gal. Drums
   - ☐ Bulk Tanks
   - ☐ Other (Specify)
2. Number of Containers (/ One Below)
   - ☒ 55 Gal. Drums
   - ☐ Bulk Tanks
   - ☐ Other (Specify)
3. Physical State (/ One Below)
   - ☐ Solid
   - ☒ Liquid
   - ☐ Gas
   - ☐ Sludge
4. PCB Concentration 100 % PPM
5. Hazardous Properties (/ Below All That Apply)
   - ☐ Volatile
   - ☒ Toxic
   - ☐ Corrosive
   - ☐ Flammable
   - ☒ Explosive

C. SPECIAL HANDLING INSTRUCTIONS AND TOXIC EFFECTS (If Any)

III. TRANSPORTER DISPOSITION OF WASTE (Must be filled in by Producer)

A. NAME OF INTENDED HAULER
High Voltage Maintenance Corporation
BUSINESS STREET OR ROUTE
7200 Industrial Park Boulevard
BUSINESS CITY, STATE, ZIP CODE
Mentor, Ohio 44060

B. NAME OF INTENDED DISPOSER OR SERVICE FACILITY
Chemical Waste Management
STREET OR ROUTE
Post Office Box 1200
CITY, STATE, ZIP CODE
Livingston, Alabama 35470

IV. GENERATOR CERTIFICATION

I certify that the foregoing information is true and correct.

NAME AND TITLE (Type or Print)

SIGNATURE DATE

Keep Generator Copy for your records. Give remaining copies to Transporter.

V. TRANSPORTER OR FULL SERVICE CONTRACTOR (Must be filled in by Hauler)

A. NAME TELEPHONE NO.
High Voltage Maintenance Corp. 951-2706
STREET OR ROUTE
7200 Industrial Park Boulevard
CITY, STATE, ZIP CODE
Mentor, Ohio 44060

B. STATE LIQUID OR SOLID WASTE HAULER LICENSE NUMBER

C. HAULER JOB NO. PICKUP DATE

D. VEHICLE LICENSE NO. STATE NO. OF TRIPS

VI. TRANSPORTER OR FULL SERVICE CONTRACTOR

I certify as true and correct that the waste described in Part II of this manifest was hauled by me to the following named Service or Disposal Facility, and was accepted by that Service or Disposal Facility.

(CONTINUED NEXT COLUMN)

6-4-6

New Transporter Copy for your records. Give remaining copies to Service or Disposal Facility.

VII. SERVICE FACILITY (Must be filled in by Facility)

A. NAME TELEPHONE NO.
High Voltage Maintenance Corp. 951-2706
STREET OR ROUTE
7200 Industrial Park Boulevard
CITY, STATE, ZIP CODE
Mentor, Ohio 44060

B. TOTAL QUANTITY OF PCB RECEIVED (/ One Below)
- ☐ Lbs.
- ☐ Tons
- ☐ Gal.
- ☐ Cu. Yds.
- ☐ 55 Gal. Drums
- ☐ Bulk Tanks
- ☐ Other (Specify)

C. DESCRIPTION OF PCB WASTE PRODUCE RECEIVED

D. PCB WAS ☐ Disposed of ☐ Reclaimed

E. NAME OF INTENDED DISPOSER

VIII. SERVICE FACILITY CERTIFICATION

I certify as true and correct that the Transporter or Full Service Contractor named above delivered the waste described in Part II of this manifest to this Service Facility; that this waste was an acceptable material under the terms of federal, state and local regulations; and that it was processed at this facility.

NAME AND TITLE (Type or Printed)

SIGNATURE DATE

Keep Service Facility Copy for your records. Send Generator Copy to Generator if PCB waste was reclaimed. Give remaining copy(s) to Disposal Facility if waste is intended for disposal.

IX. DISPOSER OF WASTE (Must be filled in by Disposer)

A. NAME TELEPHONE NO.

STREET OR ROUTE

CITY, STATE, ZIP CODE

B. ADDRESS OF DISPOSAL SITE IF DIFFERENT FROM ABOVE

C. STATE INCINERATOR PERMIT NO. OR LANDFILL LICENSE NO.

D. QUANTITY OF PCB WASTE RECEIVED AND DISPOSED

1. Total Quantity (/ One Below)
   - ☐ Lbs.
   - ☐ Tons
   - ☐ Gals.
   - ☐ Cu. Yards
2. Number of Containers (/ One Below)
   - ☐ Landfill
   - ☐ Incineration
   - ☐ Other (Specify)

E. DISPOSAL METHOD (/ One Below)
- ☐ Landfill
- ☐ Incineration
- ☐ Other (Specify)

F. DISPOSAL DATE

X. DISPOSER CERTIFICATION

I certify as true and correct that the Transporter or Full Service Contractor named above delivered the waste described in Part II of this manifest to this Disposal Facility; that the waste was an acceptable material under the terms of federal, state and local regulations; and that it was disposed of at this site.

NAME AND TITLE (Type or Printed)

SIGNATURE DATE

Keep Disposer of Waste Copy for your records. Send a copy to Generator

SPILLS OF PCB MUST BE REPORTED

5

1

73

INDUSTRIAL COMPLIANCE EVALUATION INSPECTION REPORT

SCM Corporation Plant #2
2426 Middle Road
Ashtabula, Ohio 44004

Chio EPA Permit No. 3IE00017*CD
U.S. EPA No. OH0000493

Prepared By

William J. Miller
Environmental Engineer
Division of Water Pollution Control
Industrial Wastewater Group

May 21, 1985

Water Division

SUMMARY

The Ohio Environmental Protection Agency conducted a compliance evaluation inspection of SCM Plant #2 on December 11, 1984. The purpose of the inspection was to verify the Company's compliance with NPDES Permit No. 3IE00017*CD.

The inspection consisted of a review of permittee self-monitoring reports and other correspondence received from the company; tours of the production facilities, waste treatment systems, and laboratory; and discussions with company personnel. An itemized checklist of inspection findings is contained in the attached U.S. EPA form 3560.

Results of the survey indicate that SCM Plant #2 appeared to be in compliance with OEPA Permit No. 3IE00017*CD and the Findings and Orders issued by the Director on December 15, 1981. However, the initial settling pond at the TiO_2 unit appeared to need cleaning.

FACT SHEET

Permittee

SCM Corp. Plant #2
2426 Middle Road
P.O. Box 310
Ashtabula, Ohio 44004

Facility Representatives

R.L. Lambert - TiO_2 Superintendent
A.C. Steinbronn - $TiCl_4$ Superintendent

Tel: (216) 997-5501

Responsible Official

D.A. Towner, Plant Manager

Tel: (216) 997-5501

Inspection Data

Type of Inspection:	Industrial Compliance Evaluation
Date of Inspection:	December 11, 1984
Compliance Status:	In compliance
Date of Previous Compliance Inspection:	April 25&26, 1984
Previous Compliance Status:	In compliance

Outfall Data

Monitoring Station No.:	3IE00017 001
Water Supply:	Ashco (Lake Erie)
Wastewater Type:	Contact Cooling, Non-Contact Cooling, Boiler Blowdown, Cooling Tower Blowdown, Storm Water, Sanitary Wastes
Flow:	0.5 MGD
Receiving Waters:	Fields Brook - Ashtabula River - Lake Erie
Parameters Monitored:	Flow pH Temperature TSS TDS Fe (T) Zn (T) Chlorine Residual (T)

Monitoring Station No.:	3IE00017 002
Water Supply:	Ashco (Lake Erie) & City of Ashtabula (minor)
Wastewater Type:	Process, Sanitary, Storm Water
Flow:	2.3 MGD
Receiving Waters:	Fields Brook - Ashtabula River - Lake Erie
Parameters Monitored:	Flow pH Temperature TSS TDS Cr (T) Fe (T) Pb (T) Zn (T) Ni (T) Total Halogenated Organics

Monitoring Station No.:	3IE00017 601
Wastewater Type:	TiO_2 operation sanitary plant - Tributary to Outfall 001
Receiving Waters:	Fields Brook
Parameters Monitored:	Flow Odor Color Turbidity

Monitoring Station No.:	3IE00017 602
Wastewater Type:	$TiCl_4$ operation sanitary plant - Tributary to Outfall 002
Receiving Waters:	Fields Brook
Parameters Monitored:	Flow Odor Color Turbidity

Participants

Ohio EPA: William J. Miller, Environmental Engineer

Permittee: D.A. Towner, Plant Manager
R.L. Lambert, TiO_2 Superintendent
A.C. Steinbronn, $TiCl_4$ Plant Superintendent
Bob Schlosser, Laboratory Superintendent

NPDES Permit Data

Ohio EPA Permit No.: 3IE00017*CD

U.S. EPA No.: OH0000493

Effective Date: September 28, 1984

Expiration Date: September 25, 1989

PERMITTEE PROFILE

The SCM Plant #2 is a titanium dioxide refinery. The raw material is rutile, which is 95% TiO_2 and 5% a mixture of many other metal oxides.

The basic production process is conversion of the oxides to chlorides, processing to recover $TiCl_4$, conversion of $TiCl_4$ back to TiO_2, and processing of TiO_2 to impart various desirable properties to it. The TiO_2 is used as a pigment in paints and plastics.

Full details on the production processes at the $TiCl_4$ unit and the waste treatment systems may be found in previous compliance reports dated October 9, 1979, and June 19, 1980, by Mark T. Baumgardner. Since the last inspection the TiO_2 unit has changed its production process, which is now essentially the same as that at nearby SCM Plant #1. This process is described in detail in compliance reports dated October 4, 1979, and April 29, 1980, by Mark Baumgardner, for Plant #1 (NPDES No. 3IE00013*CD).

FINDINGS OF SITE VISIT

Inspection of treatment facilities and discussion with company personnel indicated that the treatment facilities were operating properly. However, the initial settling pond at the TiO_2 unit appeared to need cleaning. Inspection of the laboratory and discussion with company personnel indicated that methods of sample collection, preservation, and analysis were as required by the permit.

The company is continuing its recently initiated practice of calibrating the flow meter at outfall 002 yearly to ensure its accuracy. Visual inspection indicated that it did not appear subject to excessive buffeting.

In response to the last compliance sampling inspection report dated August 22, 1984, the company has begun refrigerating samples during compositing.

REVIEW OF SELF-MONITORING REPORTS AND OTHER CORRESPONDENCE

A review of the company's self-monitoring reports from April 1984 through March 1985 revealed that the facility was in compliance during most months in this period. Scattered violations which did occur during this time frame were generally not attributable to any specific design or operational deficiencies. These excursions were reportedly caused by such unexpected events as spills, laboratory error, and unknown causes.

There had been concern that, with increasing production at the $TiCl_4$ unit, the company might encounter difficulty meeting the TSS and/or TDS loading limits at outfall 002. An insignificant TSS monthly average loading violation occurred in May 1984. Also, a significant daily maximum TDS loading violation occurred in September 1984. All other TSS and TDS loadings, both daily and average, were in compliance for the period April 1984 - March 1985.

In the last compliance inspection report, dated August 22, 1984, the company was requested to study its analytical methods for TSS and TDS. Samples taken for these parameters in April 1984 gave different results when analyzed in the company's and the agency's laboratories.

The company made a thorough investigation of its practices and filed a report dated September 27, 1984. The report stated that the reason for the discrepancies was not discovered, but that the company had fully evaluated its methods and confirmed that they met Ohio EPA's requirements. This report fully complied with OEPA's request.

CONCLUSIONS & RECOMMENDATIONS

SCM Corp. Plant #2 appeared to be in compliance with its NPDES permit on the day of the inspection. The company should clean the initial settling pond at the TiO_2 unit to remove the excessive buildup of solids. No other changes in present practices appear necessary.

QUARTERLY INDUSTRIAL COMPLIANCE REPORT

The Ohio EPA has agreed to submit to the U.S. EPA quarterly reports of all instances of noncompliance with NPDES permit conditions that are effective for facilities on the "Major Dischargers" list. The report also lists ongoing or proposed enforcement actions along with circumstances behind noncompliance. Thus, the "Quarterly Industrial Compliance Report" shows progress toward wastewater pollution control as well as significant deviations from required activities and effluent limitations imposed on major NPDES permit holders.

By submitting the report, the U.S. EPA is assured that we have reviewed the compliance status of all Major Dischargers on a periodic basis. The report is also available to the Congress of the United States and to the public at large. Often, copies are requested by special interest groups, sales representatives, and private citizens who desire to learn the status of major facilities in their area.

Quarterly Industrial Compliance Reports for SCM Plant #2 for the period of April 1, 1984, through December 31, 1984, are attached as follows.

74

INDUSTRIAL COMPLIANCE EVALUATION INSPECTION REPORT

SCM Corporation, Plant #2
2426 Middle Road
Ashtabula, Ohio 44004

Ohio EPA Permit No. 3IE00017*CD
U.S. EPA No. OH0000493

Prepared By

William J. Miller
Environmental Engineer
Division of Water Pollution Control
Industrial Wastewater Group
December 3, 1985

Water D.v.

SUMMARY

The Ohio Environmental Protection Agency conducted a compliance evaluation inspection of SCM Plant #2 on November 6, 1985. The purpose of the inspection was to verify the Company's compliance with NPDES Permit No. 3IE00017*CD.

The inspection consisted of a review of permittee self-monitoring reports and other correspondence received from the company; tours of the production facilities, waste treatment systems, and laboratory; and discussions with company personnel. An itemized checklist of inspection findings is contained in the attached U.S. EPA form 3560.

Results of the survey indicate that SCM Plant #2 appeared to be in compliance with OEPA Permit No. 3IE00017*CD and the Findings and Orders issued by the Director on December 15, 1981. A few operational and maintenance deficiencies were noted.

FACT SHEET

Permittee

SCM Corp. Plant #2
2426 Middle Road
P.O. Box 310
Ashtabula, Ohio 44004

Facility Representatives

P.L. Lambert - TiO_2 Superintendent
Rodney Shimko - $TiCl_4$ Superintendent
A.C. Steirbronn - Operations Manager

Tel: (216) 997-5501

Responsible Official

D.A. Towner, Plant Manager

Tel: (216) 997-5501

Inspection Data

Type of Inspection:	Industrial Compliance Evaluation
Date of Inspection:	November 6, 1985
Compliance Status:	In compliance
Date of Previous Compliance Inspection:	December 11, 1984
Previous Compliance Status:	In compliance

Outfall Data

Monitoring Station No.:	3IE00017 001
Water Supply:	Ashco (Lake Erie)
Wastewater Type:	Contact Cooling, Non-Contact Cooling, Boiler Blowdown, Cooling Tower Blowdown, Storm Water, Sanitary Wastes
Flow:	0.5 MGD
Receiving Waters:	Fields Brook - Ashtabula River - Lake Erie
Parameters Monitored:	Flow pH Temperature TSS TDS Fe (T) Zn (T) Chlorine Resicual (T)

FACT SHEET

Permittee

SCM Corp. Plant #2
2426 Middle Road
P.O. Box 310
Ashtabula, Ohio 44004

Facility Representatives

R.L. Lambert - TiO_2 Superintendent
A.C. Steinbronn - $TiCl_4$ Superintendent

Tel: (216) 997-5501

Responsible Official

D.A. Towner, Plant Manager

Tel: (216) 997-5501

Inspection Data

Type of Inspection:	Industrial Compliance Evaluation
Date of Inspection:	December 11, 1984
Compliance Status:	In compliance
Date of Previous Compliance Inspection:	April 25&26, 1984
Previous Compliance Status:	In compliance

Outfall Data

Monitoring Station No.:	3IE00017 001
Water Supply:	Ashco (Lake Erie)
Wastewater Type:	Contact Cooling, Non-Contact Cooling, Boiler Blowdown, Cooling Tower Blowdown, Storm Water, Sanitary Wastes
Flow:	0.5 MGD
Receiving Waters:	Fields Brook - Ashtabula River - Lake Erie
Parameters Monitored:	Flow pH Temperature TSS TDS Fe (T) Zn (T) Chlorine Residual (T)

Monitoring Station No.:	3IE00017 002
Water Supply:	Ashco (Lake Erie) & City of Ashtabula (minor)
Wastewater Type:	Process, Sanitary, Storm Water
Flow:	2.3 MGD
Receiving Waters:	Fields Brook - Ashtabula River - Lake Erie
Parameters Monitored:	Flow pH Temperature TSS TDS Cr (T) Fe (T) Pb (T) Zn (T) Ni (T) Total Halogenated Organics

Monitoring Station No.:	3IE00017 601
Wastewater Type:	TiO_2 operation sanitary plant - Tributary to Outfall 001
Receiving Waters:	Fields Brook
Parameters Monitored:	Flow Odor Color Turbidity

Monitoring Station No.:	3IE00017 602
Wastewater Type:	$TiCl_4$ operation sanitary plant - Tributary to Outfall 002
Receiving Waters:	Fields Brook
Parameters Monitored:	Flow Odor Color Turbidity

Participants

Ohio EPA: William J. Miller, Environmental Engineer

Permittee: D.A. Towner, Plant Manager
R.L. Lambert, TiO_2 Superintendent
A.C. Steinbronn, $TiCl_4$ Plant Superintendent
Bob Schlosser, Laboratory Superintendent

NPDES Permit Data

Ohio EPA Permit No.: 3IE00017*CD

U.S. EPA No.: OH0000493

Effective Date: September 28, 1984

Expiration Date: September 25, 1989

PERMITTEE PROFILE

The SCM Plant #2 is a titanium dioxide refinery. The raw material is rutile, which is 95% TiO_2 and 5% a mixture of many other metal oxides.

The basic production process is corversion of the oxides to chlorides, processing to recover $TiCl_4$, conversion of $TiCl_4$ back to TiO_2, and processing of TiO_2 to impart various desirable properties to it. The TiO_2 is used as a pigment in paints and plastics.

Full details on the production processes at the $TiCl_4$ unit and the waste treatment systems may be found in previous compliance reports dated October 9, 1979, and June 19, 1980, by Mark T. Baumgardner. Since the last inspection the TiO_2 unit has changed its production process, which is now essentially the same as that at nearby SCM Plant #1. This process is described in detail in compliance reports dated October 4, 1979, and April 29, 1980, by Mark Baumgardner, for Plant #1 (NPDES No. 3IE00013*CD).

FINDINGS OF SITE VISIT

Inspection of treatment facilities and discussion with company personnel indicated that the treatment facilities were operating properly. However, the initial settling pond at the TiO_2 unit appeared to need cleaning. Inspection of the laboratory and discussion with company personnel indicated that methods of sample collection, preservation, and analysis were as required by the permit.

The company is continuing its recently initiated practice of calibrating the flow meter at outfall 002 yearly to ensure its accuracy. Visual inspection indicated that it did not appear subject to excessive buffeting.

In response to the last compliance sampling inspection report dated August 22, 1984, the company has begun refrigerating samples during compositing.

REVIEW OF SELF-MONITORING REPORTS AND OTHER CORRESPONDENCE

A review of the company's self-monitoring reports from April 1984 through March 1985 revealed that the facility was in compliance during most months in this period. Scattered violations which did occur during this time frame were generally not attributable to any specific design or operational deficiencies. These excursions were reportedly caused by such unexpected events as spills, laboratory error, and unknown causes.

There had been concern that, with increasing production at the $TiCl_4$ unit, the company might encounter difficulty meeting the TSS and/or TDS loading limits at outfall 002. An insignificant TSS monthly average loading violation occurred in May 1984. Also, a significant daily maximum TDS loading violation occurred in September 1984. All other TSS and TDS loadings, both daily and average, were in compliance for the period April 1984 - March 1985.

In the last compliance inspection report, dated August 22, 1984, the company was requested to study its analytical methods for TSS and TDS. Samples taken for these parameters in April 1984 gave different results when analyzed in the company's and the agency's laboratories.

The company made a thorough investigation of its practices and filed a report dated September 27, 1984. The report stated that the reason for the discrepancies was not discovered, but that the company had fully evaluated its methods and confirmed that they met Ohio EPA's requirements. This report fully complied with OEPA's request.

CONCLUSIONS & RECOMMENDATIONS

SCM Corp. Plant #2 appeared to be in compliance with its NPDES permit on the day of the inspection. The company should clean the initial settling pond at the TiO_2 unit to remove the excessive buildup of solids. No other changes in present practices appear necessary.

QUARTERLY INDUSTRIAL COMPLIANCE REPORT

The Ohio EPA has agreed to submit to the U.S. EPA quarterly reports of all instances of noncompliance with NPDES permit conditions that are effective for facilities on the "Major Dischargers" list. The report also lists ongoing or proposed enforcement actions along with circumstances behind noncompliance. Thus, the "Quarterly Industrial Compliance Report" shows progress toward wastewater pollution control as well as significant deviations from required activities and effluent limitations imposed on major NPDES permit holders.

By submitting the report, the U.S. EPA is assured that we have reviewed the compliance status of all Major Dischargers on a periodic basis. The report is also available to the Congress of the United States and to the public at large. Often, copies are requested by special interest groups, sales representatives, and private citizens who desire to learn the status of major facilities in their area.

Quarterly Industrial Compliance Reports for SCM Plant #2 for the period of April 1, 1984, through December 31, 1984, are attached as follows.

SUBMITTED BY: Michael A. Savage, IWW

DATE SUBMITTED: May 28, 1985

OHIO EPA
QUARTERLY INDUSTRIAL COMPLIANCE REPORT
REPORTING PERIOD: January, February, March, 1985
EFFLUENT & EVENTS STATUS

DISTRICT: Northeast

MAJOR LIST	COMPLIANCE STATUS	ACTION TAKEN OR PROPOSED	COMMENTS
NAME GCW Corporation	January	4/9/85 - Enforcement letter sent to entity from district re: February violation.	(Formerly: GCW Natural Resource)
Fil. 2, Schedule	No violations		3/14/85 - Letter of noncompliance received from company re: February violations. Cause unclear. Possibilities include lab error and unusual raw material composition.
NPDES NO. OH0000093	February	5/21/85 - Compliance inspection report sent to entity from district re: 12/11/84 sampling.	
FACY 31E00017	STA 002		
EFFECTIVE: 09/26/84	Significant Violations Total Chromium ug/l, kg/day		
EXPIRES: 09/25/89	March		
MOD. EFF. ___/___/___	No violations		
MOD. EFF. ___/___/___			
MOD. EFF. ___/___/___			
FED's EFF: ___/___/___			
TYPE: INITIAL ____ RENEWAL __X__			

Effluent Table:
Interim: _____
Final: ____X____

Special Action: _____

Quarterly Status: IC
Monthly Events Status:

SUBMITTED BY: Michael A. Savage, IWW

DATE SUBMITTED: August 28, 1985

OHIO EPA
QUARTERLY INDUSTRIAL COMPLIANCE REPORT
REPORTING PERIOD: April, May and June, 1985
EFFLUENT & EVENTS STATUS

DISTRICT: Northeast

MAJOR LIST	COMPLIANCE STATUS	ACTION TAKEN OR PROPOSED	COMMENTS
NAME SCM Corporation	April	6/6/85 - Enforcement letter sent to company from district re: April violation.	(Formerly: GLW Natural Resource)
Plt. 2, Ashtabula	STA 002		4/8/85 - Letter of noncompliance received from company re: April pH violation.
NPDES NO. OH0000493	Significant Violation pH (min)	No action necessary re: May insignificant violation.	
FACN 3IF00017	May	No action necessary re: June insignificant violation.	6/7/85 - Letter of noncompliance received from company re: May violation.
EFFECTIVE: 09/28/84	STA 001		
EXPIRES: 09/25/89	Insignificant Violation Total Suspended Solids mg/l		
MOD. EFF. / /	June		
MOD. EFF. / /	STA 002		
MOD. EFF. / /	Insignificant Violation Total Suspended Solids kg/day		
FED's EFF: / /			

TYPE: INITIAL _____
RENEWAL X

Effluent Table:
Interim: _____
Final: X

Special Action: _____

Quarterly Status: IC
Monthly Events Status:
April - In Compliance
May - In Compliance
June - In Compliance

Natural Resources Group
GULF + WESTERN INDUSTRIES

Chemicals Division - Titanium

P. O. Box 160
Ashtabula, Ohio 44004
(216) 997-5501

75

June 22, 1979

Ms. Deborah J. Berg
Office of Land Pollution Control
Ohio Environmental Protection Agency
Northeast District Office
2110 E. Aurora Road
Twinsburg, OH 44087

Dear Ms. Berg:

Attached is a description of solid waste materials generated at our plants and the disposal practices for each.

If more information is required or there are any questions, please contact us.

Sincerely,

D. A. Towner
Plant Manager

kr

G+W NATURAL RESOURCES GROUP
CHEMICALS DIVISION - TITANIUM
ASHTABULA, OHIO

A. C. Steinbronn
$TiCl_4$ Unit Superintendent

June 22, 1979

SOLID WASTE

$TiCl_4$ UNIT WASTE

A. Process Waste

1. The process waste consists of a mixture of unreacted titanium bearing ore and coke, neutralization products of metallic chlorides, and water. The mixture is a viscous sludge with the following composition:

Water	70%
Unreacted Ore	10%
Unreacted Coke	2%
Titanic Hydroxide	4%
Ferric Hydroxide	2%
Silicon Oxide	2%
Zirconium Hydroxide	2%
Aluminum Hydroxide	1%
Calcium Hydroxide	1%
Vanadium Hydroxide	1%
Miscellaneous Hydroxides	5%

2. The plant generates 5,400 cubic yards of this waste per month.

3. Current waste is trucked off-site two or three times per week and land-filled by:

Reserve Environmental Services, Inc.
5841 Woodman Avenue
P.O.Box 1038
Ashtabula, Ohio 44004

Prior to 1976, some of the waste was intermittently stock piled on plant site. This pile presently contains about 75,000 cubic yards of waste. The analysis is essentially the same as that of fresh waste, except that the water content has been reduced to about 50% by evaporation.

SCM NATURAL RESOURCES GROUP
CHEMICALS DIVISION - TITANIUM
ASHTABULA, OHIO

R.L.Suttman
TiO_2 Unit Superintendent

June 22, 1979

SOLID WASTE

TiO_2 WASTE STORAGE AND DISPOSAL

A. Pond Waste

Settling pond waste is removed and transported by truck to a land fill type facility. The sludge consists of about 60% water, 35% TiO_2 and 5% fly ash.

Approximately 1,000 cu.yds. per year are removed by:

Reserve Environmental Services
5841 Woodman Avenue
Ashtabula, Ohio 44004

B. Coal Boiler Fly Ash

The fly ash from the coal boiler is transported by truck and used for land fill.

Approximately 1,200 tons per year are removed by:

Joel Shellhammer
3429 Stevens Road
Ashtabula, Ohio 44004

C. Trash

Paper and wood are accumulated and placed in hoppers and trucked away to a land fill.

Approximately 3,000 cu.yds/year of trash is removed by:

Niciu Trucking Company
5030 South Ridge East
Ashtabula, Ohio 44004

GW
Natural Resources Group
GULF + WESTERN INDUSTRIES
Chemicals Division - Titanium

in ash. Co.

Box 160
Ashtabula, Ohio 44004
(216) 997-5501

REGISTERED MAIL
RETURN RECEIPT REQUESTED

December 17, 1979

Mr. Lynn Clark, P.E.
Ohio Environmental Protection Agency
Northeast District Office
2110 East Aurora Road
Twinsburg, OH 44087

Dear Mr. Clark:

On 10/15/79 we received a letter from your office requesting reports or plans on any solid waste disposal facilities. Based on a subsequent conversation with Mr. Bergman we believe our facility is properly classified as long-term storage rather than a solid waste disposal site.

Our solid waste material is dewatered solids from the waste-water treatment process. Currently, this material is hauled away from the plant site about 3 days/week with the plant operating 7 days/week (24 hours/day). If this hauling time is insufficient the material is stored on the site. Additionally, material from prior years operation is also stored on the site.

This material has reclaimable values and economic evaluations have been made by others as well as by the Company. Although recovery is not currently economically feasible, it is anticipated it will be in the future.

Our records, though not complete, show that material has been removed from the site both for sale and hauling to a disposal site. We would probably not be able to document all movements.

In summary we think this site is long term storage and not disposal. If you need additional information, please contact us.

Sincerely,

D. A. Towner
Plant Manager

kr

76

G+W NATURAL RESOURCES GROUP
CHEMICALS DIVISION - TITANIUM
ASHTABULA, OHIO

ANNUAL PCB REPORT
1982

PREPARED BY:

A. C. STEINBRONN
$TiCl_4$ UNIT SUPERINTENDENT

REPORT DATED JANUARY 11, 1983

Copies: ~~A. C. Steinbronn~~
SPCC Plan

TSCA

JANUARY 11, 1983

ANNUAL PCB REPORT - 1982

The status of the therminol heat transfer system remains unchanged. The recirculating loop was sampled on June 7, 1982 and analyzed at 32 ppm PCB. The loop and expansion tank content of 2,302 gallons contains 0.48 pounds PCB.

The contaminated therminol is still being stored in FB-112. The tank was sampled on October 4, 1982 at 12 inch intervals to compensate for possible stratification. The PCB concentration ranged from 7,960 to 11,490 ppm and the total content is 855.5 pounds PCB. Samples of this material were sent to Sunohio on October 5 for development work to adapt the PCBX process to contaminated heat transfer fluids.

Three (3) transformers with a total of 16,300 pounds PCB are still in use at the $TiCl_4$ Unit, and eighteen (18) capacitors with 502.6 pounds PCB at the Oxide Unit. The transformers were inspected at three month intervals as required by the Interim Measures Program. Maintenance was performed on transformers 6420 and 6421 by Transformer Service, Inc. on November 1, 1982. The switches of these transformers were sampled by TSI for PCB on October 20 and drained on November 1. The PCB contaminated fluid was removed from the premises by TSI and is being stored for ultimate disposal at the Rollins Environmental facility in Deer Park, Texas (Manifest attached).

A total of 63 empty PCB contaminated drums and 6 drums filled with PCB articles were disposed of March 26, 1982 by Chemical Waste Management, Inc. (Manifest attached). The U. S. EPA was notified that these articles, which had been the cause of a notice of non-compliance in 1981, had been disposed of in a proper manner.

A. C. Steinbronn
$TiCl_4$ Unit Superintendent

Attachments - please see following page
kr
cc: SPCC Plan
ACSteinbronn

JANUARY 11, 1983

ATTACHMENTS TO ANNUAL PCB REPORT - 1982:

1. PCB Inventory
2. Waste Therminol Storage Tank (FB-112) Inventory
3. Analytical Reports (2)
4. PCB Transformer Inspection and Maintenance Logs for transformers nos. 12019, 6420 and 6421.
5. TSI Transformer Inspection Logs
6. TSI Service Report, November 3, 1982
7. TSI Service Report, November 15, 1982
8. Hazardous Waste Manifest - Drums
9. Hazardous Waste Manifest - Transformer Switch Oil
10. Letter from Sunohio to H.I.Solomon regarding PCBX Process.
11. Letter from Bruce R. Granoff to Sandra S. Garderbring regarding disposal of drums.

PCB INVENTORY - DECEMBER 1982

1. THERMINOL SYSTEM

A. Storage Tank (FB-458)

Empty

B. Expansion Tank (FB-459)

488 gals. @ 75°F = 3,601 pounds therminol

Assume PCB concentration same as piping loop = 32 ppm

3,601 pounds @ 32 ppm = 0.12 pounds PCB

C. Piping Loop

1,814 gals. @ 470°F = 11,174 pounds therminol

11,174 pounds @ 32 ppm = 0.36 pounds PCB

D. Waste Therminol Storage Tank (FB-112)

The tank contains 12,706 gallons of PCB contaminated therminol. Samples taken at 12 inch intervals ranged from 7,960 to 11,490 ppm PCB. This calculates to a weighted average concentration of 9,485 ppm and a loading of 889.4 pounds PCB.

2. ELECTRICAL EQUIPMENT

See attached table.

** UPDATED MARCH 4, 1981

ELECTRICAL EQUIPMENT CONTAINING PCBs

JANUARY 24, 1980

TYPE	LOCATION	SIZE	IDENTIFICATION	MANUFACTURER	PCB CONTENT	REMARKS
TRANSFORMER	$TiCl_4$ - MCC 5 & 6	1500 KVA	SERIAL NO.12019	ITE	5300 LBS.	
TRANSFORMER	$TiCl_4$ - MCC 2A	750 KVA	SERIAL NO. 6420	ITE	5500 LBS.	
TRANSFORMER	$TiCl_4$ - MCC 2A	750 KVA	SERIAL NO. 6421	ITE	5500 LBS.	
CAPACITOR	TiO_2-SWITCH RACK 1	25 KVAR		WESTINGHOUSE	25.4 Lbs.	
	" - " 1	25 "		"	25.4 "	
	" - " 2	25 "		"	25.4 "	
	" - " 2	25 "		"	25.4 "	
	" - " 2A	25 "		"	25.4 "	
	" - " 2A	25 "		"	25.4 "	
	" - " 3	25 "		"	25.4 "	
	" - " 3	25 "		"	25.4 "	
	" - " 5	25 "		"	25.4 "	
	" - " 5	25 "		"	25.4 "	
	" - " 6	50 "		"	50.8 " est.	
	" - " 7	25 "		"	25.4 "	
	" - " 7	25 "		"	25.4 "	
	" - " 8	50 "		"	50.8 " est.	
	" - " 9	25 "		"	25.4 "	
	" - " 9	25 "		"	25.4 "	
	" - " 9A	20 "		GENERAL ELECT. **	20.0 " est.	
	" - " 9A	25 "		" " **	25.4 " est.	
	" - " H	25 "		WESTINGHOUSE	25.4 "	**DISPOSED OF ON 6/7/80
	" - " H	25 "		"	25.4 "	**DISPOSED OF ON 6/7/80

WASTE THERMINOL STORAGE TANK (FB-112) INVENTORY

07/06/82 Transferred three (3) drums of therminol/water mixture from drip pans.

FB-112 Content:	78.75 inches	=	~~12,246~~ 12,476 gal.
11/19/81 Inventory:			12,329 gal.
Volume Transferred			~~127~~ 147 gal.

PCB Content

858 gal	@ 10,640 ppm	=	67.4 pounds PCB
1,527 gal	@ 10,110 ppm	=	113.9
1,903 gal	@ 11,490 ppm	=	161.4
2,126 gal	@ 7,960 ppm	=	124.9
2,290 gal	@ 8,150 ppm	=	137.7
2,401 gal	@ 9,380 ppm	=	166.2
1,141 gal	@ 9,980 ppm	=	84.0
12,246 gal	@ 9,466 ppm	=	855.5 pounds PCB

78 3/4" = 6.5625"

6.5 12329 gal
6.5625 x
7.0 12556

$\frac{0.0625}{0.5} = \frac{x}{1177}$

x = 147

6.5625' = 12476 gal

CERTIFICATE OF ANALYSIS

WADSWORTH TESTING LABORATORIES, INC.

P.O. Box 208 • 1600 Fourth St. S.E. • Canton, Ohio 44701 • (216) 454-5809

CHEMISTS · METALLURGISTS · ENGINEERS ESTABLISHED 1938

G + W Natural Resources
Chemical Div. Titanium
P.O. Box 160
Ashtabula, Ohio 44004

DATE 6/14/82

Sampled 6/7/82

Subject: T-890 Sample

PCB = 32 ppm Aro 1242

WADSWORTH TESTING LABORATORIES, INC.

CERTIFICATE OF ANALYSIS

WADSWORTH TESTING LABORATORIES, INC.

P.O. Box 208 • 1600 Fourth St. S.E. • Canton, Ohio 44701 • (216) 454-5809

CHEMISTS • METALLURGISTS • ENGINEERS

ESTABLISHED 1938

G + W Resources
Chem Div Ti Group
P.O. Box 160
Ashtabula, Ohio 44004

DATE ~~10/22/82~~

THERMINOL STORAGE

PCB CONTENT

T973	#7 - 80" From Bottom	9,980 ppm	Aro 1248
T967	#1 - 8" " "	10,640 ppm	Aro 1248
T972	#6 - 68" "	9,380 ppm	Aro 1248
T970	#4 - 44" "	7,960 ppm	Aro 1248
T968	#2 - 20" "	10,110 ppm	Aro 1248
T969	#3 - 32" "	11,490 ppm	Aro 1248
T971	#5 - 56" "	8,150 ppm	Aro 1248

Sampled 10/4/82

WADSWORTH TESTING LABORATORIES, INC.

Marion Wadsworth, Jr.

GW NATURAL RESOURCES GROUP
CHEMICALS DIVISION - TITANIUM
ASHTABULA, OHIO

$TiCl_4$ UNIT

PCB TRANSFORMER INSPECTION AND MAINTENANCE LOG

TRANSFORMER LOCATION: MCC 5 & 6

TRANSFORMER SERIAL NUMBER: 12019

DATE	SERVICE	COMMENTS
April 1981	Inspection by TSI	1) Leak at sample tap nipple. 2) Oil level low.
August 6, 1981	Maintenance by TSI	1) Repaired leak at sample tap nipple. 2) Oil level is good, not low as reported in April
Nov. 18, 1981	Inspection - D.Moisio and A.C.Steinbronn	No visible leaks, oil level good.
Feb. 26, 1982	Inspection - D.Moisio and A.C.Steinbronn	No visible leaks, oil level good.
May 7, 1982	Inspection - D.Moisio and A.C.Steinbronn	No visible leaks, oil level good.
July 15, 1982	Inspection by TSI	No leaks, oil level loss. (Report dated 7/16/82)
Oct. 1, 1982	Inspection - D.Moisio and A.C.Steinbronn	No visible leaks.

G+W NATURAL RESOURCES GROUP
CHEMICALS DIVISION - TITANIUM
ASHTABULA, OHIO

$TiCl_4$ UNIT

PCB TRANSFORMER INSPECTION AND MAINTENANCE LOG

TRANSFORMER LOCATION: MCC 2A - West

TRANSFORMER SERIAL NUMBER: 6420

DATE	SERVICE	COMMENTS
April 1981	Inspection by TSI	Leak at bottom valve.
August 6, 1981	Maintenance by TSI	Repaired leak at the shaft of the primary disconnect switch.
Nov. 18, 1981	Inspection - D.Moisio and A.C.Steinbronn	No visible leak, oil level good.
Feb. 26, 1982	Inspection - D.Moisio and A.C.Steinbronn	No visible leaks, oil level good.
May 7 1982	Inspection - D.Moisio and A.C.Steinbronn	No visible leaks, oil level good.
July 15 1982	Inspection by TSI	No leaks, oil level good. (Report dated July 16, 1982)
Oct. 1 1982	Inspection - D.Moisio and A.C.Steinbronn	Leak at disconnect switch.

GTW NATURAL RESOURCES GROUP
CHEMICALS DIVISION - TITANIUM
ASHTABULA, OHIO

- $TiCl_4$ UNIT

PCB TRANSFORMER INSPECTION AND MAINTENANCE LOG

TRANSFORMER LOCATION: MCC 2A - West

TRANSFORMER SERIAL NUMBER: 6420

DATE	SERVICE	COMMENTS
Oct. 20 1982	Maintenance by TSI	Epoxied switch arm.
Nov. 1 1982	Maintenance by TSI	Repaired switch arm; drained switch and refilled with PCB-free transformer oil

GHW NATURAL RESOURCES GROUP
CHEMICALS DIVISION - TITANIUM
ASHTABULA, OHIO

$TiCl_4$ UNIT

PCB TRANSFORMER INSPECTION AND MAINTENANCE LOG

TRANSFORMER LOCATION: MCC 2A - East

TRANSFORMER SERIAL NUMBER: 6421

DATE	SERVICE	COMMENTS
April 1981	Inspection by TSI	Oil level low.
August 6, 1981	Maintenance by TSI	1) Repaired bottom weld joint on southeast cooling fin. 2) Oil level is good, not low as reported in April.
Oct. 8, 1981	Maintenance by TSI	1) Replaced primary switch compartment gasket. 2) Replaced cracked bushing on pot head connection. 3) Blanked off parallel feeder at pot head connection.
Nov. 18, 1981	Inspection - D.Moisio and A.C.Steinbronn	No visible leaks, oil level good.
Feb. 26, 1982	Inspection - D.Moisio and A.C.Steinbronn	No visible leaks, oil level good.
May 7 1982	Inspection - D.Moisio and A.C.Steinbronn	No visible leaks, oil level good.
July 15 1982	Insepction by TSI	No leaks, oil level good. (Report dated 7/16/82)
Oct. 1 1982	Inspection - D.Moisio and A.C.Steinbronn	Drip of what appears to be gasketing material at lower seal.

INTER-OFFICE COMMUNICATION

TO Marion Young, USEPA DATE 9/15/83

FROM: Trish Klahr, Ohio EPA

SUBJECT: Findings & Conclusions: G & W Natural Resources Group

This facility was found to be in noncompliance with the PCB regulations by Versar, Inc. on June 5, 1981. The Ohio EPA reinspected this facility to verify they had achieved compliance, and also to investigate the possibility that G & W Natural Resources Group was responsible for PCB contamination in the sediments of Fields Brook and the Ashtabula River.

The heat transfer system located outside of this plant appears to be the source of PCB contamination in rainwater trenches and overflow channels leading from the plant to either an onsite treatment system or to Fields Brook. Levels of 620 ppm and 330 ppm were found in the trench and the pump overflow respectively.

The heat transfer system was sampled by the Ohio EPA and contained between 66 and 69 ppm PCBs. It was not labeled.

Ken Harsh of our office has done extensive sampling of sediments in the Ashtabula River Basin, and will be conducting a cleanup program involving the implicated companies. Please coordinate your actions concerning this inspection with him.

TK/cs

REPORT ON INSPECTION TO DETERMINE COMPLIANCE WITH THE PCB DISPOSAL AND MARKING REGULATIONS

Gulf + Western Industries/Chemicals Division
Natural Resources Group
P. O. Box 160 - Middle Road
Ashtabula, Ohio 44004
216/997-5501

June 28, 1983

PERFORMED BY:

OHIO ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF EMERGENCY RESPONSE

P. O. BOX 1049, 361 E. BROAD STREET

COLUMBUS, OHIO 43216

AS AUTHORIZED UNDER THE U.S. EPA

PILOT TSCA COOPERATIVE ENFORCEMENT

AGREEMENT PROGRAM.

PCB COMPLIANCE INSPECTION REPORT

I. Company Identification

Gulf + Western Industries/Chemicals Division
Natural Resources Group
P. O. Box 160 - Middle Road
Ashtabula, Ohio 44004
216/997-5501

Responsible Official

Mr. Douglas A. Towner, Manager

II. Date of Inspection

June 28, 1983

III. Participants

Company

Mr. Douglas A. Towner, Plant Manager
Mr. Alfred C. Steinbronn, Production Superintendent

Ohio EPA

Mr. Ken Harsh, Environmental Scientist
Ms. Patricia Klahr, Environmental Scientist

IV. Objectives

The inspection was made to document the company's PCB handling, storage, and disposal practices and to determine its compliance with PCB Disposal and Marking Regulations (40 CFR, Part 761), as published in the May 31, 1979 Federal Register and amended by the Final Rule of August 25, 1982.

V. Company Background

Production: Titanium Dioxide, Titanium Tetrachloride
SIC Number: 2816
Marketing Area: Nationwide, import, export
Year Established: 1963
Approxmiate Annual Sales: Over $25 million
Plant Size: 100,000 square feet
Employees: 180

This facility was selected for a PCB inspection by the Office of Toxic Substances, Region V as part of the Watershed Compliance Inspection Program for the Ashtabula River Basin.

VI. Inspection Summary

A. Opening Conference

A Notice of Inspection and a TSCA Inspection Confidentiality Notice were issued to Mr. Towner, Plant Manager.

The PCB program at Gulf + Western Natural Resources Group (G+W) was discussed. Annual reports and other documents pertinent to the PCB program were reviewed.

For ease in understanding, the PCB items will be discussed in association with either one of the two plants they are servicing:

1. the titanium dioxide plant (TiO_2), or
2. the titanium tetrachloride plant ($TiCl_4$).

The G+W annual PCB report for 1982 refers to these as the Oxide Unit and the $TiCl_4$ Unit respectively.

B. Electrical Equipment

There are three PCB Transformers containing a total of 16,300 pounds of PCB in use at the $TiCl_4$ Unit. The transformers have been completely diked, thereby altering the inspection regime to a yearly requirement.

There are 18 capacitors containing 502.6 pounds of PCB in use at the Oxide Unit.

C. Hydraulic Systems

There are no hydraulic systems located at this facility.

D. Heat Transfer Systems

There is a PCB-contaminated heat transfer system located at the $TiCl_4$ Unit. The heat transfer system consists of the 5,000 gallon Therminol Storage Tank (FB-458), and the Expansion Tank (FB-459) which is continuous with the piping loop.

G+W officials stated Monsanto visited their facility and drained the heat transfer system sometime around 1970, although they did not specify why the heat transfer fluid was being removed. After the promulgation of the PCB regulations G+W tested the system and found it to contain 17,000 ppm PCB.

G+W first drained and refilled the heat transfer system in October 1979. To date the system has been drained and flushed four times.

The G+W Annual PCB Report for 1982 lists the level of PCB contamination presently in the heat transfer system at 32 ppm. The Ohio EPA sampled oil from the drip pan below the looped heat exchanger (photos 1 and 2) and from the heat pump loop and found levels of 66 ppm and 69 ppm respectively.

E. Other PCB Items

The switches associated with PCB Transformers 6420 and 6421 were tested by Transformer Services, Inc. on November 1, 1982 and found to be contaminated with PCBs. TSI drained, serviced and refilled these switches.

F. Storage

A 25,000 gallon steel tank (FB-112) contains approximately 12,700 gallons of waste therminol generated during the draining and flushing of the heat transfer system. The average concentration in the tank is 9,485 ppm. Also, PCB contaminated rainwater pumped from the dike surrounding the piping loop and pumps was put in this tank as well. Mr. Steinbronn estimated the tank contains 30% water.

The tank is located in a poured cement dike with three foot high walls, but is not covered by a roof.

G. Disposal

A total of 63 empty PCB contaminated drums and 6 drums filled with PCB articles were disposed of March 26, 1982 by Chemical Waste Management, Inc. The manifest for this shipment is contained in the Annual PCB Report for 1982 which is contained in Appendix D. The U.S. EPA was notified that these articles, which had been the cause of a Notice of Noncompliance in 1981, had been disposed.

The only other PCBs disposed by this facility in 1982 were the fluids and solids generated by Transformer Service, Inc. while servicing switchgear. TSI removed this material from the premises and stored it for ultimate disposal at Rollins Environmental, Texas.

H. Recordkeeping

Annual reports have been prepared yearly by G+W since 1978. The Annual PCB Report for 1982 is contained in Appendix D.

I. Marking

The PCB Tranformers and the PCB capacitors were labeled with the M$_L$ PCB label. The switches were marked with colored labels indicating the concentration of PCB contamination.

The drip pan below the looped heat exchanger which contained 66 ppm was not marked. The heater loop, which contained [illegible] ppm, was not marked.

The waste therminol storage tank was properly labeled.

J. Oils

Waste oils are accumulated in 55 gallon drums. Low level PCB contamination was found in some waste oils in the past, so composite samples are drawn from the drums before disposing of them. Mr. Steinbronn stated they have burned waste oil on site in the past, and they also have dealt with Poplar Oil Company.

A composite sample collected from two drums of waste oil did not contain detectable levels of PCBs.

K. Drain Systems

The heat transfer system and all the piping, tanks, and pumps associated with it are located outside. G+W has taken pains to dike areas where leaks and runoff could occur.

There is a grated rainwater trench running underneath the looped heat exchanger (Photos 2 and 3). This trench drains to the onsite treatment system consisting of lagoons and a clarifier. A debris sample collected from this trench contained 620 ppm Aroclor 1248.

An abandoned stormwater trench leads from the pump overflow to Fields Brook. A composite soil sample collected from this ditch contained 330 ppm Aroclor 1248.

A debris sample collected inside the containment dike surrounding the piping loop and pumps contained 1600 ppm Aroclor 1248.

L. Spills

G+W has not had a spill or leak from a transformer or capacitor except for minor weeping around gaskets.

The looped heat exchanger was dripping at the time of this inspection, but the leak was contained in the drip pan. Mr. Steinbronn stated the exchanger had leaked more in the past until a gasket was replaced.

There was also oil in the dike below the piping loop. Mr. Steinbronn stated this dike was put in place sometime around 1978-1979.

M. Interim Measures Program

The PCB Transformer inspection and maintenance logs are contained in the annual report in Appendix D. The transformers have been inspected quarterly since April 1981.

The transformers have been diked with containment capacity equaling 100% of the volume of the oil, therefore G+W has switched to a yearly inspection schedule.

N. Closing Conference

A Receipt for seven oil samples and documents collected during the inspeciton was issued to Mr. Towner.

VII. Photographs

Fourteen 35 mm photographs were taken during this inspection. Ten of these are included in Appendix B.

VIII. Samples

Four oil samples and three soil/debris samples were collected using hexane washed trowels, jars and vials:

Lab Number	Description	PCB (ppm)	Aroclor Type
ER 600	Drip pan oil	66	1232
ER 601	Debris from trench below drip pan	620	1248
ER 602	Storage tank FB 112	13,000	1248
ER 603	Debris from trench from pump overflow	330	1248
ER 604	Heat transfer fluid from loop	69	1232
ER 605	Debris from loop and pump dike	1,600	1248
ER 606	Composite two drums waste oil	5	

APPENDICES

A. Notice of Inspection
TSCA Inspection Confidentiality Notice
Declaration of CBI
Receipt for Samples

B. Laboratory Analyses

C. Photographs

D. Records

1. Annual PCB Report for 1982

APPENDIX A

EPA United States Environmental Protection Agency

NOTICE OF INSPECTION

Inspector Name and Address: PATRICIA KLAHR OHIO EPA 361 E. BROAD ST. COLUMBUS 43216	Name of Firm: GULF & WESTERN IND/CHEMICAL DIV
	Firm Address: Natural Resources Grp Middle Rd / POB 160 Ashtabula, OH 44004
	Date: 6-28-83 Time:
Inspector's Signature: Patricia C Klahr	Name and Title of Recipient: Mr. Doug Towner, Plant Manager
Title: ENVIRONMENTAL SCIENTIST	Signature of Recipient: Douglas A Towner

REASON FOR INSPECTION

Under the authority of Section 11 of the Toxic Substances Control Act

☒ For the purpose of inspecting (including taking samples, photographs, statements, and other inspection activities) an establishment, facility, or other premises in which chemical substances or mixtures or articles containing same are manufactured, processed or stored, or held before or after their distribution in commerce (including records, files, papers, processes, controls, and facilities) and any conveyance being used to transport chemical substances, mixtures, or articles containing same in connection with their distribution in commerce (including records, files, papers, processes, controls and facilities) bearing on whether the requirements of the Act applicable to the chemical substances, mixtures, or articles within or associated with such premises or conveyance have been compiled with.

☐ In addition, this inspection extends to (circle appropriate letters):

(A) Financial data
(B) Sales data
(C) Pricing data
(D) Personnel data
(E) Reserach data

The nature and extent of inspection of such data specified in A through E above as follows:

United States Environmental Protection Agency

TSCA Inspection Confidentiality Notice

Facility: GULF & WESTERN IND/CHEMICAL DIV

Facility Address: Natural Resources Grp
Middle Rd/POB 160
Ashtabula, OH 44004

Inspector Name: PATRICIA KLAHR

Inspector Address: OHIO EPA
361 E. BROAD ST.
COLUMBUS OH 43216

Chief Executive Officer of Firm: Mr. Doug Towner

Title: Manager

Name of Individual to Whom Notice Given: Mr. Doug Towner

Title: Plant Manager

It is possible that EPA will receive public requests for release of the information obtained during inspection of the facility above. Such requests will be handled by EPA in accordance with provisions of the Freedom of Information Act (FOIA), 5 U.S.C. 552; EPA regulations issued thereunder, 40 CFR Part 2; and the Toxic Substances Control Act, Section 14. EPA is required to make inspection data available in response to FOIA requests unless the Administrator of the Agency determines that the data contains information entitled to confidential treatment.

Any or all the information collected by EPA during the inspection may be claimed confidential if it relates to trade secrets or commercial or financial matters that you consider to be confidential. If you make claims of confidentiality, EPA will disclose the information only to the extent, and by means of the procedures, set forth in the regulations (cited above) governing EPA's treatment of confidential information. Among other things, the regulations require that EPA notify you in advance of publicly disclosing any information you have claimed and certified confidential.

To Claim Confidential Information

To claim information confidential, you must certify that each claimed item meets all of the following criteria:

1. Your company has taken measures to protect the confidentiality of the information, and it intends to continue to take such measures.
2. The information is not, and has not been, reasonably obtainable without your company's consent by other persons (other than governmental bodies) by use of legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding).
3. The information is not publicly available elsewhere.
4. Disclosure of the information would cause substantial harm to your company's competitive position.

At the completion of the inspection, you will be given a receipt for all documents, samples, and other materials collected. At that time, you may make claims that some or all of the information is confidential and meets the four criteria listed above.

If you are not authorized by your company to make confidentiality claims, this notice will be sent by certified mail, along with the receipt for documents, samples, and other materials to the Chief Executive Officer of your firm within two days of this date. The Chief Executive Officer must return a statement specifying any information which should receive confidential treatment.

The statement from the Chief Executive Officer should be addressed to:

Mr. Paul Meriage, Document Control Officer
U.S. EPA 5WMDTM 230 S. Dearborn St.
Chicago, Ill. 60604

and mailed by registered, return-receipt-requested mail within seven (7) calendar days of receipt of this Notice.

Failure by your firm to submit a written request that information be treated as confidential, either at the completion of the inspection or by the Chief Executive Officer within the seven-day period, will be treated by EPA as a waiver by your company of any claims for confidentiality regarding the inspection data.

To be completed by facility official receiving this notice

I have received and read this Notice.

Name: DOUGLAS A. TOWNER

Title: PLANT MANAGER

Signature: Douglas A. Towner

Date: 6-28-88

If there is no one on the premises of the facility who is authorized to make business confidentiality claims for the firm, a copy of this Notice and other inspection materials will be sent to the company's chief executive officer. If there is another company official who should also receive this information, please designate below.

Name:

Title:

Address:

United States Environmental Protection Agency

DECLARATION OF CONFIDENTIAL BUSINESS INFORMATION

EPA Regional Office Address: US EPA SWM DTM 230 S. DEARBORN CHICAGO, ILL 60604

Date: 6-28-83

Name of Individual: Mr. Doug Towner

Title: Plant Manager

Firm Name: Gulf & Western Ind / Chemical Div Natural Resources Grp

Firm Address: Middle Rd / POB 160 Ashtabula, OH 44004

Information Designated as Confidential Business Information:

No CBI declared at this inspection 6-28-83

Patricia C Klahn

D Towner

Acknowledgment by Claimant

The undersigned acknowledges that the information described above is designated as Confidential Business Information under Section 14(c) of the Toxic Substances Control Act. The undersigned further acknowledges that he/she is authorized to make such claims for his/her firm.

The undersigned also certifies that each item described above meets all of the following criteria: (1) The company has taken measures to protect the confidentiality of the information and it intends to continue to take such measures; (2) The information is not, and has not been reasonably attainable without the company's consent by other persons (other than governmental bodies) by use of legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding); (3) The information is not publicly available elsewhere; and (4) Disclosure of the information would cause substantial harm to the company's competitive position.

Signature (Owner, Operator, Agent)	Name of Inspector / Title
Title	Inspector's Signature

EPA United States Environmental Protection Agency

RECEIPT FOR SAMPLES AND DOCUMENTS

Name of Firm: Gulf & Western Ind/Chemical Div

Firm Address: Nat. Res. Grp, Middle Road, Ashtabula, OH 44004

Inspector Name: PATRICIA KLAHR

Inspector Address: OHIO EPA, 361 E. BROAD ST. COLUMBUS 43216

Name of Individual: Mr. Doug Towner

Title: Plant Manager

Date Collected	Duplicate Samples Requested and Received	Sample Numbers
6-28-83	(X) Yes ( ) No	16W - 76W

The documents and samples of chemical substances and/or mixtures described below were collected in connection with the administration and enforcement of the Toxic Substances Control Act.

Receipt for the document(s) and/or sample(s) described is hereby acknowedged:

Documents

1. Annual Reports for 1978, 1979 and 1982
2. copy of purchase request for disposal of Therminol through Rollins
3. blueprint of facility ($TiCl_4$)

Sample

1. Drip pan oil
2. Dirt/Debris in trench below drip pan
3. Therminol Storage tank
4. debris from trench overflow pump
5. Therminol from Heat pump Loop
6. Debris from below loop around Lifted Area
7. Waste oil from 2 waste oil drums

Duplicate samples for 1. Heat pump Loop 2. Waste oil

Signature of Inspector	Signature of Owner, Operator, or Agent
K. M. Klahr	D. Towner
Title: Asst Chief Emerg Response	Title: Plant Manager

APPENDIX B

CH-86

STATE of OHIO
DEPARTMENT OF HEALTH
Industrial Chemistry Section
1571 Perry Street
Columbus, Ohio 43201

SAMPLE AND LABORATORY DATA SHEET

Date Collected 6/28/83

District: CO - Emergency Response

Report to the following address: 361 E. Broad Street Columbus

Sampling Technique (Apparatus-Collection Medium-Equipment): Trowell for sludges, JAR on staining Tank FB112,

Collected By: Ken Harsa

Analysis Desired: PCB

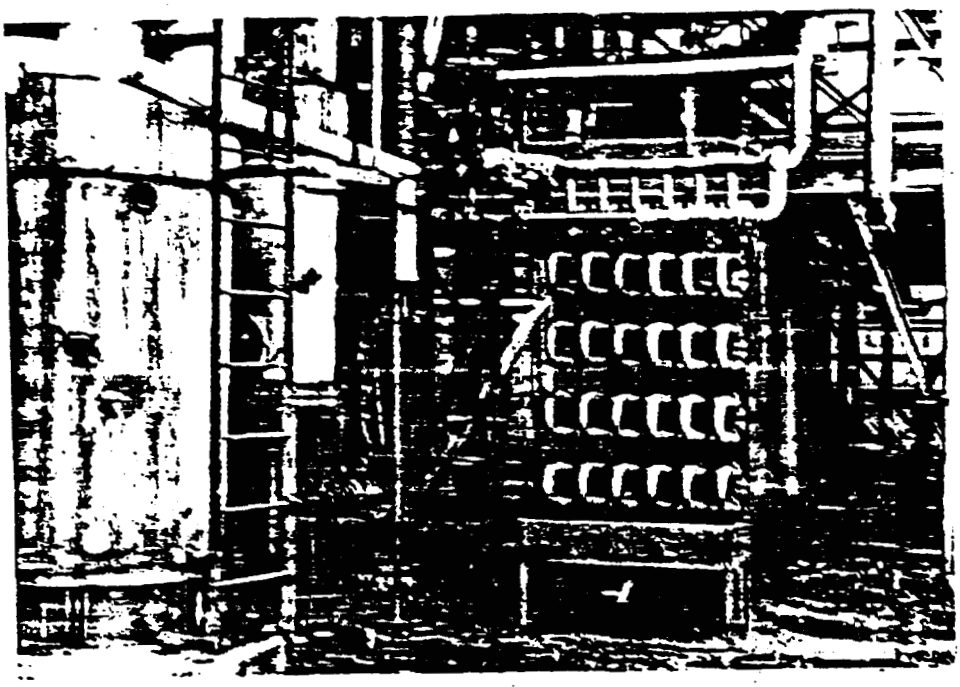
Comments: G+W Natural Resources Group TiCl4 plant @ state & middle Road

Date Shipped	Date Received	Received By	Shipment Method	Condition of Sample
	6-29-83	Paul Beauregard	Hand Carried	all OK

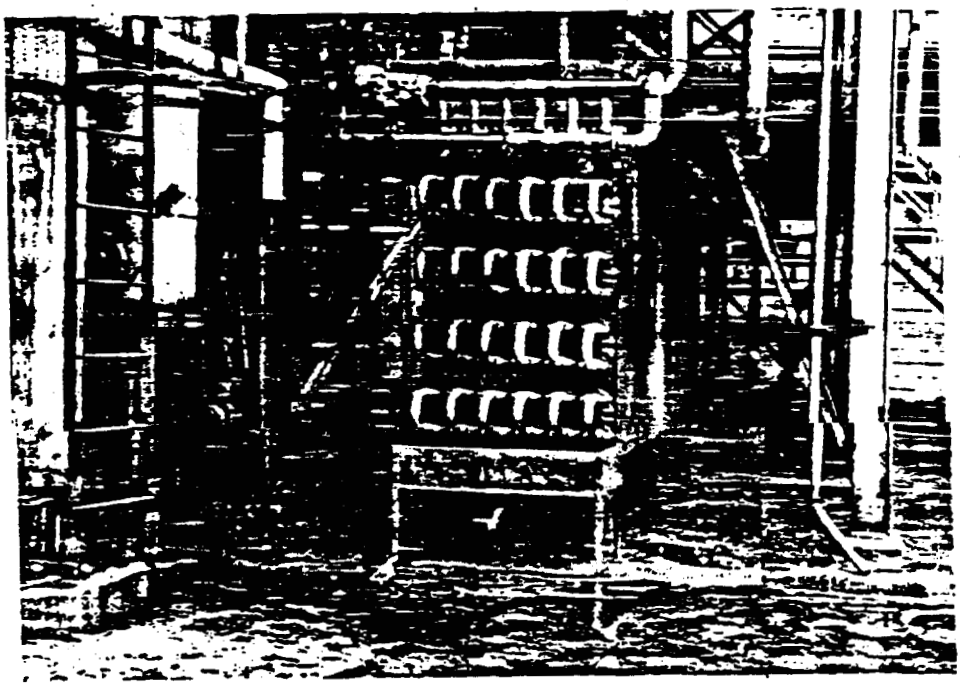
District Field Sample #	ODH Lab Sample #	Operation and Sampling Location	Laboratory Results
1.	ER600	Drip Pan oil G+W	66 µg/g PCB 12
2 G+W	ER601	Debris from Trench below Drip PAN "	620 µg/g PCB 12
3 G+W	ER602	FB112 Therminol Storage Tank "	13,000 µg/g PCB 12
4 G+W	ER603	Debris from trench from pump overflow "	230 µg/g PCB 12
5 G+W	ER604	Therminol Fluid from Heater Loop "	67 µg/g PCB 12
6 G+W	ER605	Debris from Around Loop, pump & diked Area "	1600 µg/g PCB 12
7 G+W	ER606	Composite from 2 waste oil Drums "	< 5 µg/g PCB "

Analysis By Paul R. Beauregard Date 8/25/83 Lab Supv. J. [illegible]

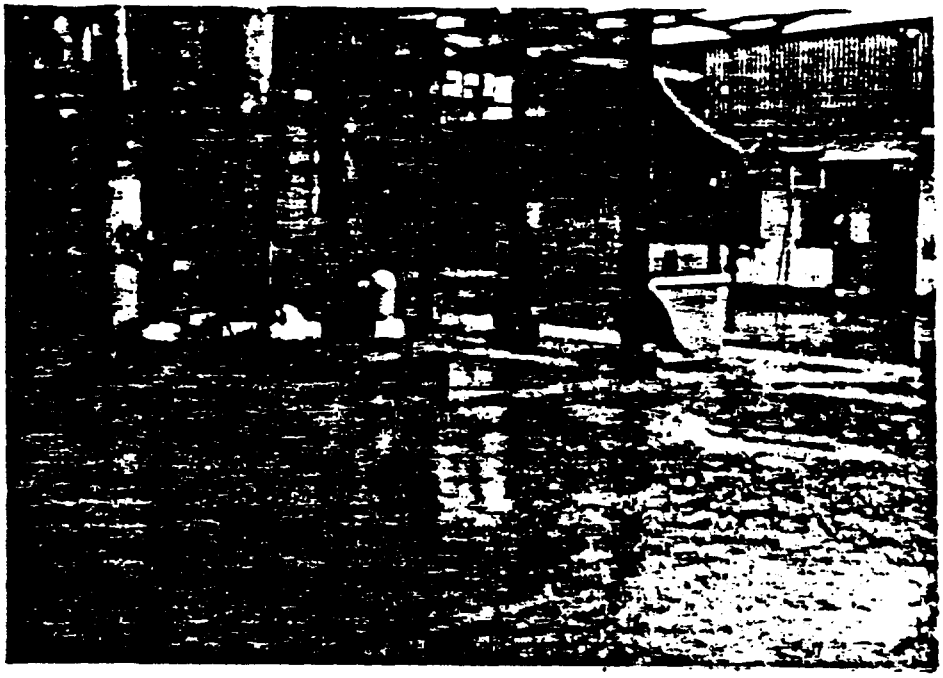
APPENDIX C



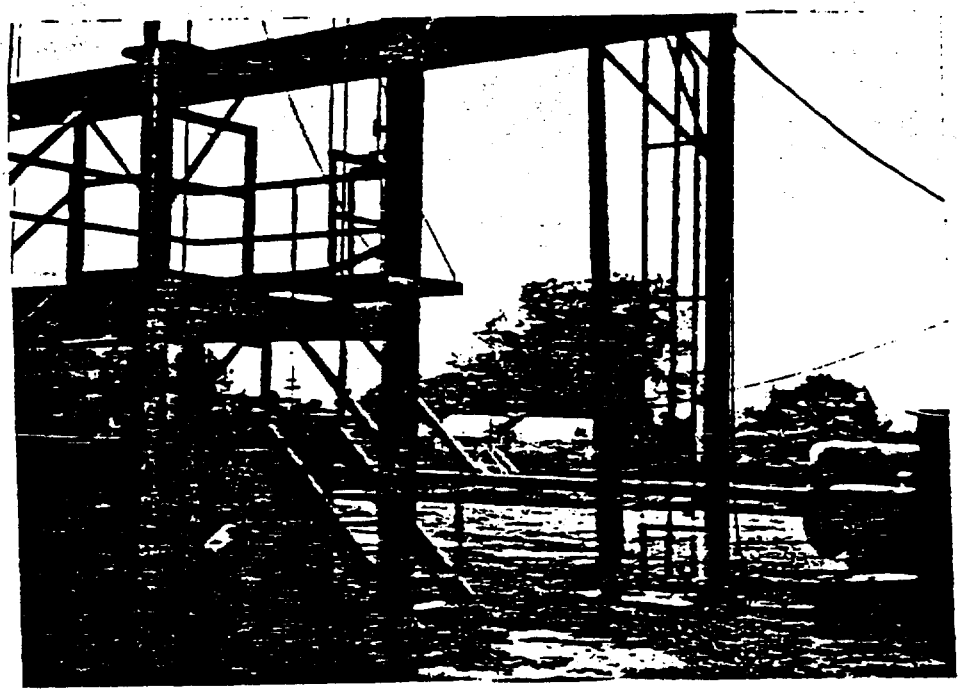
1. Looped heat exchanger.



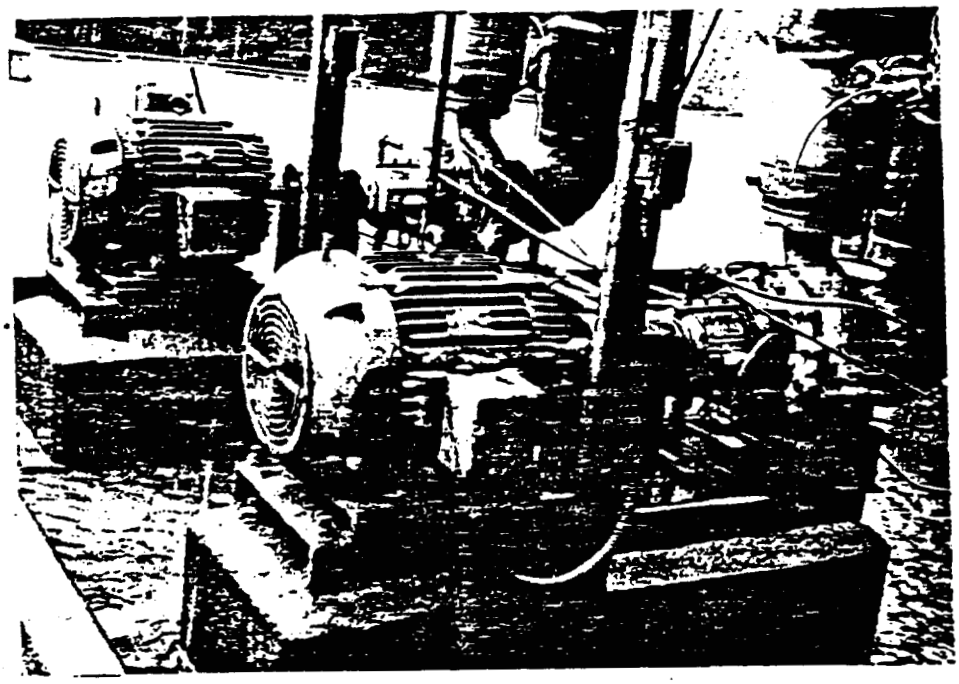
2. Looped heat exchanger.



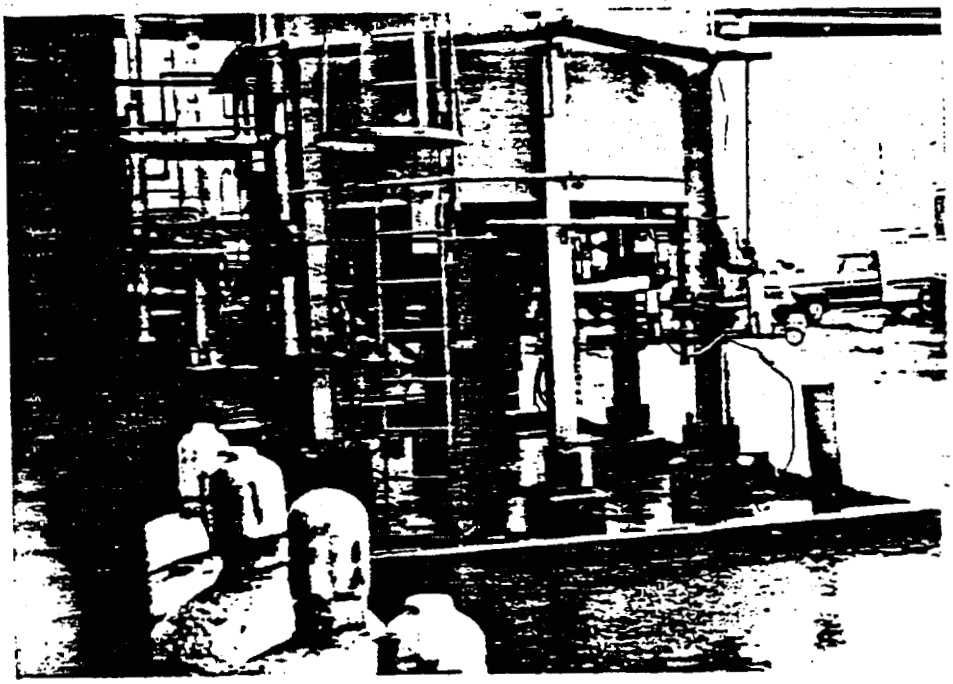
3. Grated rainwater trench that runs below looped heat exchanger and intersects a second trench near the yellow dumpster.



4. Tank FB-112 (in background); a 25,000 gallon steel tank containing approximately 12,700 gallons of waste therminol.



5. Pumps for heat transfer system located inside a dike.



6. Heat transfer system.

APPENDIX D

Jersey
Miniere
Zinc
Division of Union Zinc, Inc.

77

October 25, 1984

Dr. Sheldon S. Simon
Regional PCB Coordinator
5 HT-16
U. S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

RE.: IN THE MATTER OF: GULF & WESTERN INDUSTRIES, INC.
DOCKET NO. TSCA-V-C-198

Dear Dr. Simon:

As set out in paragraph 4 of the Consent Agreement referenced above, Gulf & Western Industries, Inc. ("Respondent"), in settlement of this matter, agreed to remove soil contaminated with polychlorinated biphenyls (PCBs) from the stormwater trench and the area immediately surrounding it. Further, Respondent agreed to provide evidence that the contaminated soil was properly manifested and disposed of in accordance with applicable provisions of Title 15 of the U. S. Code and Title 40 of the Code of Federal Regulations relating to PCBs, and that the stormwater trench was filled with uncontaminated fill. This letter and accompanying documentation are intended to fulfill that obligation.

Subsequent to receipt of the Civil Administrative Complaint alleging violations of the Toxic Substances Control Act (TSCA), the Respondent expended well over $50,000 in an effort to clean up the area in question at its former Ashtabula, Ohio facility.

Respondent entertained proposals from national full-service environmental clean-up and disposal concerns and entered into an agreement with Rollins Environmental Services, Inc. on July 11, 1984 (copy enclosed) for the excavation, transportation and disposal of PCB-contaminated soils from the aforementioned trench and surrounding area at the SCM Pigments Facility formerly owned by Respondent. In addition, the Respondent had extensive excavation work performed which resulted in the removal of the trench retention walls and subsequent application of clean backfill to the area.

Commencing on August 27, 1984, Rollins personnel removed and disposed of soil from the north-south and east-west trenches originating at GA-510 sump. It was determined by SCM personnel that the concrete walls of the north-south trench were in poor condition and presented a safety hazard and they were subsequently demolished and the trench was filled with stone and gravel.

TSCA

About 68 cubic yards of soil were removed from a 1600 square foot area bordered by the trench on the east and the plant property line on the north. In addition, about 24 cubic yards were removed from a 325 square foot area east of the trench. The area and depth of removal were chosen by SCM personnel on the basis of sample analyses and the contour of the ground. The removed soil was replaced with clean fill consisting of stone and gravel. The job was completed on September 8, 1984. The soil was trucked in 13 truckloads to CECOS' disposal facility located in Williamsburg, Ohio.

The Ashtabula facility received copies of twelve (12) Uniform State Hazardous Waste Manifests (Nos. 010540-010551) and one (1) State of New Jersey Hazardous Waste Manifest (No. 0234234), which are enclosed as proof of proper disposal of the soil in issue.

We trust this information will satisfy Respondent's responsibility under paragraph 4 of the Consent Agreement.

Please contact me if you have any questions concerning this matter.

Very truly yours,

Bruce R. Granoff

Bruce R. Granoff
Legal and Environmental Counsel

Enclosures

cc: Edward P. Kenney
Assistant Regional Counsel

Robert P. Marshall
Associate Counsel
Gulf & Western Industries, Inc.

GENERAL TIRE

GTR CHEMICAL COMPANY

P.O. BOX 68 • ASHTABULA, OHIO 44004

PHONE: (216) 998-1120

79

June 20, 1983

Mark T. Baumgardner
Enviromental Scientist
Northeast District Office OEPA
2110 E. Aurora Road
Twinsburg, Ohio (44087)

Permit to Install #02-1069

Dear Mr. Baumgardner:

In response to your letter of June 2, 1983, we have begun to collect data to answer some of the questions on K-rates and BOD and COD loadings.

However, since some of the information is available, we would like to present it now.

Figure I shows the pond layout and the aerator locations. There are 5 surface aerators and one sub-surface unit. The surface aerators are driven by 10 Hp motors. With a flow of 400,000 gal/day and oxygen transfer rate of 2.5# O_2/hp-hr, the five surface aerators yields 900 ppm O_2. This level exceeds our gross BOD requirements.

The problem areas associated with short circuiting within each pond seems most probable in one section of #4 pond, and #5 pond. This is to be tested to confirm this situation.

The ph profile is typically flat. The control point is in a central pit before it gets to #1 pond. Generally we don't see any big changes through the ponds to the outfall. We control between 6-9 ph, and the outfall is between 6-9 ph. The waste water temperature varies with the ambient air. The inlet averages between 130 deg. and 150 deg. F. The outlet then varies between 40 deg and 90 deg F. We don't see any problem in these areas.

Sludge removal is normally done only at #1 pond. This is done 3 or 4 times a year, depending on a visual inspection. Loading is determined by the truck load and the water content of the sludge. During the cleaning, the pond is by-passed and the influent goes to #2 pond. Every two or three years that pond is cleaned, again dependent on a visual check. Average dredgings is estimated at 200,000 to 300,000#.

The procedure would appear to be the same in determining when to clean the new ponds, #4 or #5. The sludge is carried from the pond by crane, deposited in a dump truck and taken to a landfill.

X-2

Permit to Install #02-1069.

The new ponds take water from the existing storm sewer prior to outfall 001. This was accomplished by daming the 48" sewer tile to a height of 34". Two submersible pumps were installed each with a capacity of 450 gpm. Two level switches were installed. One switch started on pump when the water level was 14". The second pump would come on when the water level reaches 26". Both pumps would run until the water came back down to below 14". In the event the pumps could not handle the total flow, and the level kept rising, the water would over-flow the dam, and by-pass #4 and #5 pond.

Based on a 1973 sub-surface investigation by Solar Testing Laboratories, Inc. Cleveland. Sub-surface composition in the pond is mostly clay. This ranges from soft clay and stiff silty clay at 13 ft. to 23 ft. to very stiff gray clay below these levels. There would seem to be a very low potential for infiltration and ground water contamination.

Shore erosion on #5 Pond would appear to be minor, because of the low angle of the embankment. There also is gravel covering the embankment below the water level. Free board on #5 pond is approximately 2 ft. However, #4 pond in parts have very little freeboard. This was done because of the modification to reduce short circuiting.

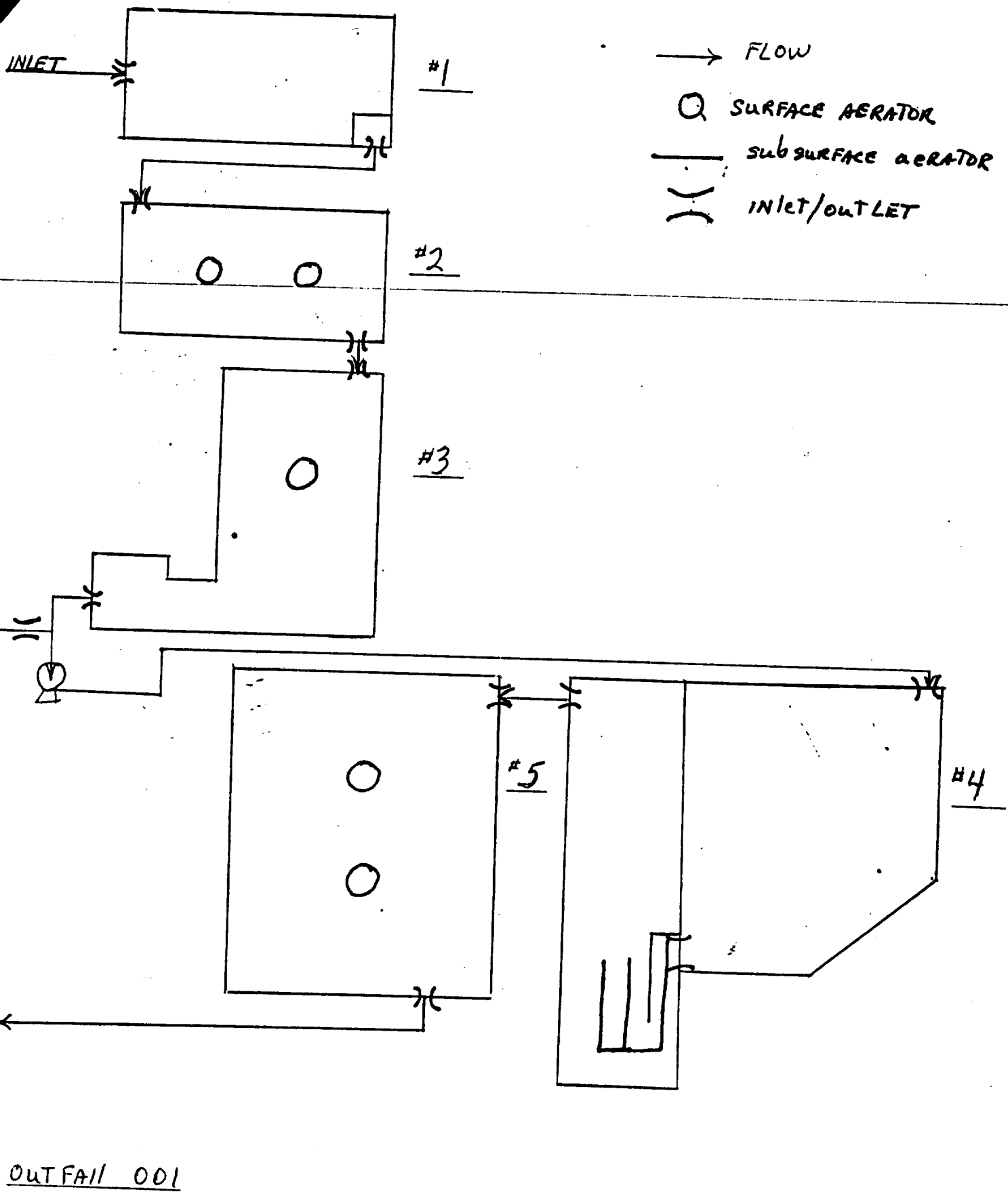
We hope this is a satisfactory beginning to resolve the problems with our permit to install. As soon as additional data is available on BOD and COD, we will respond to the remaining questions.

Very truly yours,

H. O. Graff
Technical Superintendent

CC: Bill Bush , O.E.P.A.
R. L. Jackson
H. E. Jewett
R. W. Laundrie
W. J. Henrick

FIGURE I


INLET
#1
#2
#3
#4
#5
FLOW
SURFACE AERATOR
SUBSURFACE AERATOR
INLET/OUTLET
OUTFALL 001

INTER-OFFICE COMMUNICATION

file

TO Paul Flanigan - C.O. - HMM DATE January 7, 1982

FROM: Chris Frazier - NEDO - HMM

SUBJECT: General Tire & Rubber Permit Modification (#02-04-0106)

General Tire, Ashtabula, has been storing cyclohexanone and acetone (F003) and carbon disulfide (F005) since November, 1980. They have been operating under Hazardous Waste Permit #02-04-0106. The company now proposes to treat the wastes in an existing boiler.

The boiler is designed to burn natural gas and #5 fuel oil. It has a 25 MMBTU/HR in-put rating. The unit has no monitoring or pollution control equipment, furthermore, there are no plans to install this type of equipment.

The solvents would be burned in conjunction with natural gas. The boiler has already undergone modification to handle the solvents (Atomization Feed Nozzle).

The attached sheet lists additional information relating to the combustion of these wastes. As you will see, the quantity of wastes involved is only 100 gal/yr.

It appears as though burning the cyclohexanone/acetone mixture (135,000 BTU/gal.) would constitute legitimate "re-use" as defined in 3745-51-06. I request your comments on the fuel value of carbon disulfide and the acetone/water mixture.

Furthermore, if, according to 3745-51-06, the wastes are exempted from 3745-58-30 through 49, is the company required to amend their Part A?

CF: km

Attachment

X-1

FORM GEN 1001

FUEL DATA

WASTE SOLVENTS:

1. Cyclohexanone/Acetone Mixture (approx. 65% cyclohexanone, 35% acetone)

Heat content approximately		135,000 BTU/gallon
Sulfur content approximately		0.0
Quantity of fuel used		60 gal/year
	Normal	2 gal/hr
	Maximum	3 gal/hr

2. Carbon Disulfide

Heat content approximately		61,442 BTU/gallon
Sulfur content		84.2%
Quantity of fuel used		40 gal/year
	Normal	1 gal/hr
	Maximum	2 gal/hr

3. Acetone/Water Mixture (60% to 80% Acetone)

Heat content approximately	52,000 to 70,000 BTU/gallon
Sulfur content	0.0
Quantity of fuel used	200 gallons

(Disposal of present waste in storage -- no additional generation of this type of waste is expected)

7521

REPORT ON PLANS FOR INDUSTRIAL WASTE DISPOSAL AT GEN CORP INC., ASHTABULA COUNTY

Gen Corp Inc., hereafter "the Company", owns a plant on Middle Road in Ashtabula Township of Ashtabula County. The plant is presently shut down. When operating, the plant polymerizes various monomers such as vinyl chloride and vinyl acetate. The plant is currently under NPDES Permit No. 3IF00006*FD.

In order to achieve more consistent compliance with permit limits for biochemical oxygen demand, and for other purposes related to pollution control, in 1982 the Company made various improvements in its waste treatment system. In order to comply with Ohio Revised Code Section 6111.45 and in order to receive tax credit, on November 30, 1982, the Company filed Permit to Install Application No. 02-1069. Supplemental information was filed on June 20 and November 29, 1983. The following paragraphs and block diagram describe the plant's waste treatment systems and the improvements that are covered by this PTI application.

The old system consisted of a central waste pit (A) for the plant process sewers. Lime and alum are fed to the pit. The pit is then pumped to three (3) settling ponds (B), (D), & (E), in series. Total capacity of these ponds is about 750,000 gallons. An aeration column (C) takes a small stream, approximately 100 gpm, and recycles back into #1 pond. There is also surface aeration on ponds (D) and (E).

The first improvement, a water stripper system, was installed to reduce the level of mono vinyl chloride to less than 10 ppm. This pre-treats any water that has been in contact with vinyl chloride. The water is collected in a tank under vacuum at 170° F and stripped for one hour. The stripped vinyl chloride is recovered and reused; the water is discharged to the central waste pit (A).

A second project was completed to ensure that water that was not treated did not escape to ground water, or the storm sewer system. This was accomplished by rebuilding the central waste pit (A), and some of the process sewer system with acid-proof brick.

The third project was to install a pre-settling tank system to reduce the solids loading at the ponds. At a location where the polyvinyl chloride resin collects, a pump and appropriate lines were installed so that a 16,000 gallon tank, already in existence, could be used to settle out usable resin. Any excess water would go to the central waste pit (A). The resin could be dried and sold as good product.

X-3

The fourth and last project was the addition of two (2) ponds that were part of Olin Corporation's water treatment. Designated as #4 pond (F), and #5 pond (G), they are piped in series with the 3 old ponds. The final outfall to Fields Brook (I), will remain the same. #4 pond is a concrete structure with a working volume of 400,000 gallons. This pond will flow to #5 pond, which is earthen, with a volume of approximately 500,000 gallons. The outfall from #5 pond will be directed back to the Company's outfall 001.

The Company has determined that the new lagoons are underlain by clay and silty clay. The potential for ground water contamination seems very slight. The #5 pond is believed to be fairly safe from shore erosion, despite wave action generated by the wind and the aerators, because of the low angle of the embankment. Also, gravel covers the embankment below the water level.

The flow was divered to the new ponds (F) & (G), by constructing a dam in the outfall tile (H) and pumping via two (2) 450 gpm pumps to #4 pond (F). Not only is waste water diverted but also the plant storm sewer systems. In the event that the pumps cannot handle the total flow, part of the stream will overflow the dam at (H), bypass #4 pond (F) and #5 pond (G), and go straight to the outfall at (I). Normal flow will be 250 to 300 gpm. With rain or snow, total flow could exceed 500 gpm, which is the limit of the flow meter at outfall 001.

The cost of the four (4) projects was:

#1 Water Stripper	$72,700
#2 Waste Pit Rebuilding	32,900
#3 Settling Pit	46,600
#4 Ponds 4 & 5	40,000
	$192,200

In the period from January 1983 until October 1984, when the plant shut down, the plant did not have a single BOD excursion, versus about 3 dozen excursions in 1982 alone. However, about the time the improvements were completed, the Company began processing much less vinyl acetate, which was believed to be a major cause of the excursions. Therefore it is unknown how much of the improvement in effluent quality is due to the treatment system improvements.

It is recommended that the permit to install be issued and that tax credit be granted

Prepared By:
William J. Miller
Environmental Engineer

Reviewed By:
William T. Bush
District Engineer

WJM:WTB/lpa
February 25, 1985